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ABSTRACT

There is an extensive body of research on the factors that predict mental health and illness, focusing on factors within the adolescent as well as within the various components of the adolescent's environment. This paper presents a selective review of the research pertaining to each layer of the adolescent's internal and external world. Throughout this paper, the aim is to go beyond the broad identification of which factors appear to be linked to mental health and illness, to the identification of specific strategies that have been attempted and evaluated, and/or for which there is evidence that initiating programs with these activities has the potential to contribute to improved mental health. These studies reveal that individual, family, peer, neighborhood, and media level variables have been found to predict both internalizing and externalizing problems. With this in mind, programs should be aware of the following: multi-component interventions appear to be the most effective for preventing and intervening in externalizing disorders; psychotherapy, pharmacotherapy and community-level strategies appear to be effective in reducing internalizing disorders; starting prevention programs as early as possible is an important approach to preventing mental disorders and externalizing problems in adolescence; research into positive mental health is particularly sparse for adolescents; more experimental evaluations of treatments and preventions are needed. (Contains 178 references and 2 tables.) (GCP)

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ED 467 804

Child TRENDS

Background for Community-Level Work on Mental Health and Externalizing Disorders in Adolescence: Reviewing the Literature on Contributing Factors

By
Jonathan F. Zaff and Julia Calkins

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Introduction

Most adolescents are mentally healthy. They are relatively happy and optimistic, are exploring their identity, have no major emotional problems, and act in a socially acceptable manner. Nonetheless, according to estimates based on a large community sample, nearly 21% of youth between 9 and 17 years old have a mental or addictive disorder (Shaffer, Fisher, Dulcan, Davies, Piacentini, Schwab-Stone, Lahey, Bourdon, Jensen, Bird, Canino, & Regier, 1996). Of this 21%, 13% of youth have anxiety disorders, 6% have a mood disorder (including depression), over 10% have disruptive behavioral problems such as conduct disorder, and 2% are addicted to drugs and/or alcohol (However, the reader should pay attention to the fact that this is a community, not a nationally representative, sample. To date, there has not been a national estimate of mental disorders.) Considering the negative impacts that emotional, behavioral, and addictive disorders can have on adolescents' lives and their subsequent lives as adults, the present report describes the antecedents of these disorders and prevention programs that might help to alleviate the symptoms of these maladies.

It is important to note that "mental health" has been considered by many in society to be synonymous with "mental illness." In other words, a negative valence has been applied to this terminology. However, there has been research into the positive components of the psyche. Not only are positive characteristics in and of themselves good outcomes, but they also promote concurrent and future well-being. This is consistent with the notion that an adolescent without problems is not necessarily prepared for life's challenges (Pittman & Cahill, 1991). For this reason, a final section of this report will examine the positive characteristics of mental health. Although there has been a relative dearth of literature in this area, there is enough research to warrant some suggestions for promoting positive mental health.

For purposes of this report, we separate mental disorders into two general categories: internalizing and externalizing disorders (see Table 1 for definitions of the disorders). Internalizing disorders, such as depression and anxiety, are expressed within the individual and are focused on a predetermined clinically problematic affective and/or emotional state. Externalizing disorders, such as conduct disorder, attention deficit disorder, and alcohol and drug abuse, are expressed overtly. These are deviant behaviors and attitudes that are persistent over an extended period of time; not drug or alcohol experimentation or one instance of shoplifting. For each category of disorder, individual, proximal, and distal antecedents are discussed.[1] A description of well-evaluated interventions and preventions is also provided. The stability of the disorders is considered, as well. In our discussion of positive mental health, because of the status of the research, we focus more on theory than on antecedents.

[1] Concisely, internalizing problems are emotional disorders that have subtle or no external markers, such as depression. In contrast, externalizing problems are emotional/behavioral disorders that manifest themselves externally, such as hitting, kicking, chronic crying or acting out.

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Methodology

There is an extensive body of research on the factors that predict mental health and illness, focusing on factors within the adolescent and within the various components of the environment (e.g., family, friends, schools and the neighborhood). In this paper, we present a selective review of the research pertaining to each layer of an adolescent's internal and external world. We emphasize (1) studies that are rigorously implemented experimental evaluations of interventions, in which aspects of the environment are manipulated and mental and addictive disorders are examined; and (2) studies that are longitudinal, involving the examination of aspects of the environment as predictors of mental health and illness and that use multivariate analyses to take background characteristics of the families into account.[2]

We have emphasized experimental and longitudinal studies for several reasons. Experimental/control group studies are better at controlling for selection bias than other designs (as long as they are well-implemented and there is not extensive attrition in the sample over time), and they are also the only research design from which definitive causal relationships can be drawn. In addition, longitudinal studies that contain adequate consideration of background characteristics can address change over time and address predictive validity better than studies that collect data from one time period (i.e., a cross-sectional design).

We also highlight studies that have been replicated with similar results across different populations and geographic regions, because successfully replicated interventions have a better chance of being replicated in additional locations than do studies that have been carried out in a single place, at one single point in time. Since the focus of the paper is on adolescents, we have restricted studies to those that assess outcomes during adolescence. Therefore, the effects of different antecedents into adulthood are generally not considered; nor are studies that have outcome data only for childhood. However, we include longitudinal studies that began in childhood and continued into adolescence. Also, when little or no information exists for a certain topic, we have included cross-sectional studies with strong theory and rigorous, multivariate analysis that are suggestive of effects on adolescents; we specifically identify these studies. Also, in rare cases, data from child and adult samples are cited when none exists for adolescents.

Throughout this paper, our aim is to go beyond the broad identification of which factors appear to be linked to mental health and illness, to the identification of *specific strategies (the kinds of programs and activities within these programs)* that have been attempted and evaluated, and/or for which there is evidence that initiating programs with these activities has the potential to contribute to improved mental health. We have summarized these findings in a "What Works" table at the end of the report. In this table, those approaches that have been evaluated using randomized experimental designs and shown to impact mental health outcomes are placed in the "what works" column. Those approaches that have been evaluated with similar rigor but have found no impact have been placed in the "what doesn't work" column. The "mixed reviews" column is for approaches that have been experimentally evaluated, but the results are conflicting. Finally, since we acknowledge that there is a dearth of randomized experimental studies in mental health research, we include promising approaches that have been informed by rigorous non-experimental studies in the "best bets" column. Although we cannot conclude

[2] These criteria for study inclusion in the present report were culled from a review of school readiness written for the John L. and James S. Knight Foundation (Halle, Zaff, Calkins, & Margie, 2000).

causality with non-experimental studies, we believe that these studies can still provide important insight to funders, practioners and program developers.

Due to the criteria we set for our selected literature review, we may not have identified *all* programs and activities across the country that may be effective in promoting mental health. This point is especially pertinent for the research base on adolescents. Compared to adults, and even to younger children, there is a relative dearth of high quality research.

Internalizing Disorders

In this section, three internalizing disorders—depression, anxiety, and eating disorders—will be discussed. We will present information about the stability of these disorders, as well as individual differences and proximal influences as antecedents of internalizing disorders. Information on distal influences is included in the section on externalizing disorders, as externalizing and internalizing disorders (perhaps with the exception of eating disorders) are included together as outcomes in most of the research on distal influences.

Suicide prevention will not be discussed in detail despite the fact that teen suicide occurs at alarming rates.[3] Unlike research findings on adult suicidal behavior, empirical evidence suggests that depression and suicidal behavior are related in adolescence (Cole, 1989) or, at least, that depression and suicidal behavior share many of the same psychosocial risk factors (Lewinsohn, Rohde, & Seeley, 1994). Surprisingly, many suicide intervention programs disconnect suicidal behavior from the presence of mental illness and few quality evaluations have been conducted on suicide prevention effectiveness (Garland & Zigler, 1993). Garland and Zigler recommend that since the main risk factors for adolescent suicide are the presence of depression/hopelessness, substance abuse, dropping out of school or teenage pregnancy, implementing effective prevention programs for those risks might be the best strategy, at present, to prevent adolescent suicide. Such programs are described in this report and accompanying reports on education and reproductive health.

Stability

Little research has examined the stability of depression, and no studies that we have found focused on adolescence. However, research on adults suggests that depression is stable over long periods of time. For example, from data of a sample of 882 males and females living in Australia, depression scores obtained at baseline predicted depression scores three to eight years later (Lovidond, 1998). The statistical stability of depression remained after controlling for anxiety and tension-stress symptoms.

Anxiety disorders are the most common class of psychiatric disorders affecting children and adolescents. Anxiety disorders often have an early onset in childhood or adolescence and continue into adulthood. A major issue in the diagnosis and study of anxiety disorders is that they are often comorbid (i.e., overlap) with disorders that overshadow them, such as depression or attention deficit hyperactivity disorder (ADHD), and these comorbid disorders are more likely to be diagnosed and treated (Albano, Chorpita, & Barlow, 1996).

As for eating disorders, anorexia nervosa (see Table 1) typically starts in adolescence between ages 14 and 18, while bulimia nervosa (see Table 1) typically begins in late adolescence

[3] Suicide is the third leading cause of death for 15-19 year olds and the fourth leading cause of death for 10-14 years olds. In all, youth commit suicide at a rate of 8.2 per 100,000 youth for 15-19 years olds and 1.2 per 100,000 for 10-14 year olds (Anderson, 1999).

or early adulthood, with a mean age of onset of age 19 or 20 (Fombonne, 1995). Anorexia nervosa, in particular, is highly resistant to change, and adolescents with the disorder typically only seek treatment when forced by family members. Eating disorders occur predominantly in females—4% to 8% of adolescent anorexics are male. Eating disorders are also more common in higher socioeconomic groups. There are lower rates among non-Caucasian populations, but the incidence is increasing among African-Americans and immigrants to western cultures (Wilson, Heffernan, & Black, 1996).

Individual Differences of Internalizing Disorders

Several individual differences variables have been studied that are linked to future mental health problems.

Depression

For depression, population-specific gender differences were revealed by Compas et al. (1997), who measured the depressive symptoms of 1,168 non-referred and 2,022 clinically-referred adolescents (age range = 11 to 18 years). The results showed that there were no gender differences within the non-referred sample with regard to level of depressive symptoms. For the referred sample, however, females had significantly higher depression ratings than males, including ratings of an anxiety/depression combination syndrome. These findings may suggest that of those who have been referred for clinical assessment, and are therefore at a higher risk for having depression than non-referred adolescents, females are at the highest risk for having major depression. The authors did not, however, consider whether females are more likely to be referred. Additional research, however, supports the hypothesis that female adolescents have higher levels of depression than males. In a six year longitudinal study of Caucasian American adolescents (236 females and 215 males), Ge, Conger, and Elder (2001) examined depression levels of adolescents from 7th through 12th grades. The researchers found that, by age 13 or 14, girls had significantly higher levels of depression than boys. This difference was small, but consistent. In hopes of explaining this small, but significant difference, Ge, Conger and Elder looked at puberty as a risk factor for depression. The results revealed that pubertal status in 7th grade (e.g., early menarche) predicted subsequent depression. For girls, the presence of early menarche interacted both with depressive symptoms and stressful life events to predict future depression. The authors posit that girls with early menarche are more vulnerable to stressful events that then lead to depression.

When looking at depression, one focus has been on genetics. As part of the Nonshared Environment and Adolescent Development Project (NEAD), O'Connor, McGuire, Reiss, Hetherington, and Plomin (1998) conducted a study on a national sample of 720 same-sex siblings between the ages of 10 and 18 years. The sample (consisting of 93 identical twins, 99 fraternal twins, 277 full siblings, 109 half-siblings, and 130 non-related siblings) was examined in order to determine the genetic and environmental influences on the co-occurrence of depression and anti-social behaviors. The researchers found, in this correlational study, that approximately 50% of the variance in depression and anti-social behaviors (individually) was attributable to genetics, with shared and nonshared environment found to be important as well. Forty-five percent of the variance of the combination of the two disorders was attributed to genetics.

Self-appraisals have also been studied as antecedents to depressive symptoms (Hoffman, Cole, Martin, Tram, & Seroczynski, 2000). The researchers followed 360 6th to 8th graders (51%

female; 62% Caucasian American, 35% African American, 2% Hispanic, 1% multi-ethnic, 1% other) to determine if their self-perceptions and the self-perceptions of others would result in greater levels of depression. The negative cognitive appraisal theory that was being tested is similar to the cognitive theory of depression (Beck, 1976), which posits that negative thoughts result in negative affect. The results support this theory, with those adolescents presenting with negative self-appraisals having higher levels of depressive symptoms. Consistent with this research, Leadbeater, Kupermine, Blatt, and Hertzog (1999) conducted a study on an ethnically diverse sample (42% White, 29% African American, 27% Hispanic, and 3% Asian) of 460 6th and 7th graders in upstate New York to determine whether there were gender differences for internal and external problems. The sample was equally distributed between males and females. The data from this one-year prospective multivariate project revealed that being self-critical predicted both internal (e.g., depression and anxiety) and external problems (e.g., conduct disorder) for boys and girls. Having internal problems at the first time period was related to a decreased chance of developing external problems; the contrary was not true for external problems. Boys were found to have more external problems than girls, while girls had more internal problems than boys.

Further individual antecedents of depression have been uncovered in research on the beliefs and personalities of children (Gjerde & Block, 1991). In this study, the researchers followed 87 children from early childhood to 18 years of age. The sample consisted of 41 males and was two-thirds Caucasian American (African American and Asian American participants comprised one-quarter and one-twentieth of the sample, respectively). Eighteen-year-old girls who had depressive symptomatology (i.e., dysthymia, which is a mild, but persistent form of depression) were concerned with loss, expressed anger, and were overcontrolling of their impulses at seven and eleven years of age. Dysthymic 18-year-old boys were also found to express anger and to be concerned with loss, but they were found to be less controlling of their impulses. Using the same sample, Block and his colleagues (Block, Gjerde, & Block, 1991) also examined the personality antecedents of depression. Eighteen-year-old dysthymic boys were self-aggrandizing and undercontrolled at 7 years of age. Dysthymic 18-year-old girls were oversocialized, and overcontrolled at 7 years of age. Similar antecedents were found during assessments in pre- and early-adolescence.

As shown by the results of the preceding studies on depression, there is a strong genetic component to depression, and it is more common in adolescent girls than in adolescent boys. However, genetics alone probably do not cause depression. Instead, genes can probably predispose an individual to have depression. In other words, specific environmental risk factors would need to be present in order for there to be a manifestation of depression. There is a consensus among researchers that there is a gene/environment interaction behind the existence of most, if not all, behaviors and traits. Therefore, it is important to understand the other characteristics of a youth's environment. Aside from genetics, personality traits may be implicated as an antecedent of depression. More specifically, there appears to be evidence that negative self-appraisals and self-criticism are both related to a higher likelihood of depression. We now turn to studies of individual differences as antecedents of anxiety disorders.

Anxiety

Much research has focused on early temperament as a predictor of the development of an anxiety disorder during childhood or adolescence. In particular, toddlers who are withdrawn and inhibited when encountering new people or situations have an increased risk for anxiety (Zahn-

Waxler, Klimes-Dougan, & Slattery, 2000). Temperament is defined as stable moods and behaviors that can be observed in early childhood. Temperament is controlled, in part, by biology, and is the result of the environment acting on the genetic predispositions with which children are born. By age two, when encountering unfamiliar people or situations, inhibited children will interrupt ongoing behavior, cease vocalizing, seek comfort, or withdraw. Uninhibited children will approach unfamiliar people or objects, and be outgoing and talkative (Schwartz, Snidman, & Kagan, 1999).

To highlight one study of early temperament, Schwartz, Snidman, and Kagan (1999) looked at the antecedents of anxiety in adolescents in a longitudinal study. The sample consisted of 79 adolescents with a mean age of 13 years. Participants were predominantly Caucasian American and middle class. They had been categorized 12 years earlier as inhibited or uninhibited, and were then assessed at age 13 using an interview and an observation of their behavior. The interview was used to assess four domains of past and current anxiety symptoms (specific fears, separation anxiety, performance anxiety, and generalized social anxiety). During the observations, participants' frequency of spontaneous comments and smiles were counted during a one-hour session.

The authors found no differences between the two groups (inhibited toddlers and uninhibited toddlers) on the measures of specific fears, separation anxiety, or performance anxiety. However, significant differences were found in social anxiety—61% of inhibited toddlers vs. 27% of uninhibited toddlers had developed generalized social anxiety by adolescence. Furthermore, during the observations, adolescents who had been classified as inhibited as toddlers made fewer spontaneous comments. Differences were more pronounced in girls than in boys. The authors concluded that an inhibited temperament in toddlerhood predisposes an adolescent to develop social anxiety, whereas an uninhibited temperament acts to protect the adolescent.

Hayward et al. (2000) studied the predictors of panic attacks in adolescents, and hypothesized that predictors would include negative affectivity (emotionality characterized by fear, sadness, self-dissatisfaction, hostility, and worry), female sex, anxiety sensitivity (the tendency to respond fearfully to anxiety symptoms), and childhood separation anxiety disorder. The study included 2,365 adolescents, with an average age of 15.4 at study entry, and the sample was multiracial. The prospective study lasted for 3 years; participants were assessed annually (a total of 4 times), using questionnaires and interviews. The authors found that negative affectivity was a predictor of the onset of panic attacks, and it was also a predictor of the onset of depression. Furthermore, there is a great deal of overlap in depression and panic attacks. Anxiety sensitivity was a unique predictor of panic attacks. Thus, the study highlights the comorbidity of depression and panic, and shows that anxiety sensitivity is a good predictor of the onset of a panic attack.

Eating disorders

Individual differences are also thought to be important in the development of eating disorders, though the research is not as strong in this area. There appears to be a genetic component to anorexia nervosa and bulimia nervosa, as seen in twin studies and studies of the relatives of anorexics and bulimics. The genetic disposition may manifest itself in personality, as adolescents and women with eating disorders are often characterized by obsessional tendencies, rigidity, and poor adaptability (Wilson, Heffernan, & Black, 1996). Strober (1980) investigated the personalities of adolescent anorexics. Although the study is not longitudinal and relies on

self-report, it does show that certain personality variables are unique to anorexic adolescents. Participants were 22 females between the ages of 12.8 and 16.5 who were admitted to hospital treatment after an initial diagnosis of anorexia. They were compared to normal-weight adolescents in the same hospital who had been diagnosed with either affective disorder or personality or conduct disturbances. Anorexics were found to be obsessional, introverted, lacking in autonomy, self-abasing, and rigid. Again, these findings should be viewed with caution due to the methodology of the study; it is not clear whether these personality variables are present before the onset of anorexia or they are a result of it.

Another issue in the study of eating disorders is that, unlike many other disorders, they emerge almost exclusively during adolescence and young adulthood. Adolescence is a time of identity formation (Erikson, 1958) and according to Wilson, Heffernan, and Black (1996), girls are more concerned than boys with how others perceive them. So, those whose identity is insecure may choose physical appearance as a way to construct identity. Since the physical maturation that occurs at adolescence causes girls to gain weight, those who are insecure in their identity might choose weight loss as a means to gain the acceptance of others in an effort to construct their identity.

A longitudinal study by Attie and Brooks-Gunn (1989) looked at eating problems in adolescent girls. Although they investigated a number of factors, their findings are most noteworthy in what they show about girls' acceptance of their own physical changes of the pubertal period. Subjects were 193 Caucasian girls in grades 7, 8, 9, and 10. They were also assessed two years later. Questionnaires were administered to the girls at Time 1, and to the girls and their mothers at Time 2. The authors found that the accumulation of body fat, which is part of female maturation, may elicit the initiation of dieting. Furthermore, a negative body image at Time 1 was a predictor of problem eating behaviors at Time 2. The study is useful for showing the importance of weight gain and negative body image—two factors that are unique to adolescence—as predictors of the development of eating disorders.

Summary

In summary, each of the three internalizing disorders discussed appear to have a genetic component, as shown by studies comparing twins and other relatives. Also, there is a great deal of overlap (i.e., comorbidity) between depression and anxiety, with no consensus yet reached on whether this comorbidity represents two distinct disorders or one. Internalizing disorders are more common in adolescent girls than in adolescent boys. Finally, early personality variables are associated with the development of disorders, although they are slightly different for each disorder. For example, self criticism is associated with the development of depression, early inhibited temperament is correlated with later social anxiety, and obsessional tendencies and rigidity are associated with the development of eating disorders.

Proximal Antecedents of Internalizing Disorders[4]

Considering that parents, peers, and other adults can have significant impacts on youth's social and emotional development (Bukowski, forthcoming; Cox, forthcoming), examining proximal antecedents within the youth's ecosystem (which include interactions with parents, peers, and other adults) is important.

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[4] Antecedents within the youth's ecosystem can be divided into two types: proximal and distal. Proximal factors are those people or things most directly in contact with the youth, including parents and peers. Distal factors are more distant aspects of the youth's environment, including such things as the neighborhood and the media.

Depression

In a longitudinal study of depression, Davies and Windle (1997) examined the predictive qualities of maternal depressive symptoms and family discord. The researchers assessed a sample of 443 (54% girls and 46% boys) 10th and 11th graders three times with six month intervals. Analysis of the data of the predominantly Caucasian American sample (97%) from high schools in upstate New York showed that maternal depressive symptoms were modestly related to conduct problems, academic difficulties, and depression for girls, but not for boys. Mediational models were conducted for each of these three outcomes. It was found, again for girls but not for boys, that family discord appeared to link maternal depression to adolescent psychopathologies.

In a study of the family environment and adolescent depressive symptoms and antisocial behavior, Pike, McGuire, Hetherington, Reiss, and Plomin (1996) studied how genetics and the environment can both have a significant effect on the development of psychopathologies. The primarily Caucasian American (approximately 94% of parents), middle class sample of 719 same-sex siblings consisted of 98 dizygotic twin pairs, 93 monozygotic twin pairs, 277 full sibling pairs, 109 half-sibling pairs, and 130 unrelated sibling pairs. The gender split was approximately even (363 pairs of brothers and 344 pairs of sisters). From their analyses, the researchers concluded that parental and sibling negativity in the nonshared environment (i.e., different environments to which siblings are exposed) is significantly related to antisocial behaviors and depressive symptoms. However, genetic influences accounted for most of the association between parental negativity and overall adolescent adjustment.

Another study examined four hypothesized developmental pathways for depression in adolescents (Harter & Whitesell, 1996). This cross-sectional study was comprised of 1,725 predominantly Caucasian American (95%) middle class families. Twenty-six percent (194 males and 255 females) were classified as being low on depression, while 45% (369 males and 403 females) were classified as high on depression.[5] The largest percentage of those who reported high levels of depressive symptoms also reported that they had low peer and parent support as well as low self-perceptions of competence with peers and parents. All four antecedents were not necessarily present among all of the depressed cohort, with 36% reporting low levels of three of the antecedents and over 18% reporting two of the antecedents. Overall, the researchers found that self-perceptions of competence, either with parents or with peers, stood out.

Parenting attitudes and styles have been shown to mediate[6] the effects of the child's temperament on depression (Katainen, Raikkonen, Keskivaara & Keltikangas-Jarvinen, 1999). The researchers studied a cohort of 389 Finnish children over a nine-year period starting at the age of six. The randomly selected sample (199 girls and 190 boys) answered questions about their temperament, their mother's child-rearing attitudes, and their depressive tendencies. The results were similar for boys and girls. Perceived child difficulties (i.e., low cooperativeness, negative emotionality, and high activity) predicted an increase in mother's hostile child-rearing attitudes (i.e., low tolerance, child's low emotional significance, and strict disciplinary style).

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[5] The extremely high rate of depression in this sample is probably explained by the researchers using a depression composite score that included self-worth, affect, hope, and suicidal ideation

[6] A *mediator* is an intervening variable that links the indirect relationship between two variables. A *moderator*, on the other hand, is a intervening variable that affects the magnitude of the relationship between two other variables.

Mother's hostile childrearing attitudes, in turn, predicted child depressive tendencies. For girls, but not for boys, mother's role satisfaction (i.e., satisfaction as a mother, as a spouse, and with work) was directly related to child's depressive tendencies. The results support the notion that mother's childrearing attitudes can mediate the effects of the child's personality on the child's affect.

Parenting can also moderate the effects of life events on an adolescent's mental health. Wagner, Cohen, and Brook (1996) prospectively studied a group of 517 adolescents who were between the ages of 11 and 21 years old at a ten-year follow-up to the initial assessment. The sample consisted of 242 girls and 275 boys and was 96.5% Caucasian American. The results showed that positive and warm parent-child relationships reduced the effects of stressful life events (and, subsequently, the level of depression) for both males and females. More authoritarian and harsh parenting increased the effects of stressful life events (and, subsequently, the level of depression) for both males and females. Therefore, the parent-child relationship can be considered to be an important moderator of stressful life events.

Parental separation may also be associated with depression. According to a study of 935 New Zealand adolescents who had been followed from birth, exposure to parental separation significantly increased the odds that the adolescents would have a mood disorder (Fergusson, Horwood, & Lynsky, 1994). This result remained after controlling for social and contextual factors.

Unlike the literature on externalizing disorders that is reviewed below, there is little quality research on the impact of peers on adolescent depression. One study examined the correlates of depression among both American (53% Caucasian American) and Chinese 11th graders. The cross-sectional data provide some support for the theory that peer relationship quality can have an effect on mental health. Peer warmth was found to moderate various risk factors. For instance, high peer warmth and low number of risk factors was related to a lower number of depressive symptoms for the American sample. However, when the number of risk factors was high, mood did not vary by peer warmth. Longitudinal data are also consistent with the association of peer relationships with adolescent mental health. Aseltine, Gore, and Colten (1994) prospectively tracked a community sample of 939 (the initial sample of 1,208 consisted of 523 boys and 685 girls) predominantly Caucasian American 9th, 10th, and 11th graders over a two-year period. The researchers found that peer support had a negative relationship with depressive symptoms among adolescents who were depressed at the initial assessment. There were no associations among asymptomatic youth.

Anxiety

Family relationships are also thought to be key in the development of anxiety disorders. Such influences could operate through at least two pathways. The first is learning anxiety through parents' modeling of it. The second pathway could be through the development of a feeling of a lack of control, brought about by faulty early attachment relationships. Also, parenting practices that are characterized by high levels of control and overprotectiveness, and low levels of sensitive responsiveness, may cause children to have poor coping strategies, low confidence levels, and the feeling of a lack of control, leading to the development of anxiety disorders (Chorpita & Barlow, 1998; Zahn-Waxler, Klimes-Dougan, & Slattery, 2000).

Although we were unable to find any longitudinal studies of familial influences on the development of anxiety disorders in adolescents, a correlational study using a sample of third through sixth graders can shed some light on the issue. Using child and parent reports with a

sample of 435 children, Messer and Beidel (1994) found that, compared to controls, children with overanxious disorder or social phobia reported that their families were characterized by high levels of parental control. The authors conclude that a genetic predisposition for anxiety disorders, early temperament, and a familial environment that limits the development of independence are all factors in the development of childhood anxiety disorders.

Eating disorders

As with anxiety disorders, familial interactions are thought to be a factor in the development of eating disorders. Minuchin posits that the families of anorexics are characterized by overinvolvement with one another, overprotectiveness, rigidity, conflict avoidance, and poor conflict resolution (Wilson, Heffernan, & Black, 1996). We found no long-term longitudinal studies of the role of family dynamics in the development of eating disorders, but several studies do target the issue. For example, in a study of 77 young adolescent girls, Byely et al. (2000) found that girls' perceptions of negative family relations predicted problematic dieting behavior then and one year later. In a Belgian study, Kog and Vandereycken (1989) compared 30 families of an eating-disorder patient to 30 normal comparison families. The patients were between the ages of 15 and 24. Each family member completed questionnaires, and families were observed while engaged in a "decision-making task" and a "conflict-resolution task." The authors found that eating-disorder families avoid conflict and have interpersonal boundary problems.

Summary

All of the preceding studies on proximal influences highlight the importance of familial interactions and processes in the development of internalizing disorders. The families of children with internalizing disorders are marked by poor parenting. Specifically, family discord, low levels of support, and childrearing attitudes involving low tolerance and strict discipline are associated with depressed adolescents. Likewise, families of anxious adolescents are characterized by high levels of parental control and little encouragement of independence. Finally, adolescents with eating disorders come from families that are conflict avoidant, overprotective, over-involved, and use poor conflict resolution strategies. The data on peer effects are less conclusive. Although there are findings to suggest that peers are as important to adolescent mental health, there is little research on the quality of the peer relationship; the studies have either been cross-sectional or short-term longitudinal.

Externalizing Disorders

Externalizing disorders are characterized by consistent expressions of deviant overt behaviors over an extended period of time. Such clusters of behaviors should not be confused with experimentation during the adolescent years. Periodically acting out or trying drugs or alcohol would not come under this heading. However, persistent aggressive and other deviant acts, the inability ever to sit still and/or pay attention, and an abuse of drugs or alcohol would be considered indicators of externalizing disorders. Therefore, in order to determine whether it might be appropriate to institute an intervention/prevention program or service, it is first important to discover whether the behaviors are stable across time or if they dissipate with or without intervention. If they dissipate over a short time period, then it might be concluded that spending money and effort on intervention/prevention programs or services would not be relevant.

It should be noted that some of the research described in this section uses delinquent actions as the outcome, not a diagnosed disorder. These studies should be seen as suggesting, not concluding, antecedents for externalizing disorders.

Stability of Externalizing Disorders

There has been much research on the developmental continuity of attention deficit hyperactive disorder (ADHD) and conduct disorder/antisocial behaviors. However, the research should be read with caution because the samples were relatively small and predominantly Caucasian American. Moreover, there is a dearth of longitudinal multivariate studies.

ADHD

In a study by Biderman, Faraone, Taylor, Sienna, Williamson, and Fine (1998), children and adolescents (6-17 years old) with and without ADHD were followed over a four-year period. This sample of 140 ADHD and 120 non-ADHD Caucasian American boys were assessed with interviews and psychometric measures. The results show that ADHD symptoms persisted throughout the four years of the study. The youth with ADHD also had significantly more symptoms of oppositional defiant disorder and conduct disorder than the controls. Though there is persistence in clinically significant symptoms, there is evidence to show that the level of the symptoms decline over time. Hart, Lahey, Loeber, Applegate and Frick (1995) used interviews to assess, annually for four years, a sample of 106 clinic-referred boys (7-12 years old) who met DSM-III[7] criteria for ADHD. The results from this predominantly (70%) Caucasian American sample demonstrated that, after accounting for the effects of being given medication and/or psychotherapy, the children's inattention symptoms declined between the first and second years and then remained stable thereafter. The researchers hypothesized that factors aside from developmental trajectory could be implicated in the decline. Hyperactive symptoms, on the contrary, declined throughout the four years, though the youth still had hyperactive symptoms that were in the clinically significant range. Since this was a consistent decline, and could not be accounted for by medical or psychotherapy treatment, the researchers reasoned that this decline was a natural developmental trajectory. It is not known if the hyperactive disorders would continue to decline as the youth continue through adolescence and into adulthood.

Conduct disorder

Illustrating the stability of conduct problems, two different developmental pathways have been found to predict different outcomes into adolescence, with child-onset having greater negative consequences. A representative cohort of 457 boys were studied from the time they were three years old until they were 18 to determine if there was a distinction between child-onset and adolescent-onset conduct problems (Moffitt et al., 1996). The sample was from the Dunedin Multidisciplinary Health and Development Study in Dunedin, New Zealand. Over 90% of the sample was of European ancestry (less than 7% were Maori or Polynesian). The children were assessed every two years from baseline until study completion. It was found that those who were on a life-course-persistent path (i.e., the individual had conduct problems from childhood into adolescence) and those who were on an adolescent-limited path did not differ in their symptoms in early adolescence. However, those in the life-course-persistence group had more deviant characteristics than those on the adolescent-limited path in childhood. The life-course-

[7] The Diagnostic and Statistical Manual of Mental Disorders contains the criteria of psychopathologies determined by the American Psychiatric Association. The fourth edition is presently in print.

persistence group also had greater instances of convictions for violent crime, more instances of school leaving, and poorer bonds with their families.

Similar results were found in a separate study in New Zealand, the Christchurch Health and Development Study (Fergusson, Lynskey, & Horwood, 1996). In order to examine the developmental continuity of conduct problems from childhood to adolescence, 901 children were first assessed when they were between 7 and 9 years old and followed-up when they were either 15 or 16 years old. The researchers found that children with early indicators of conduct problems were 16 times more likely to have conduct disorders as adolescents, compared to those who did not show evidence of conduct problems at the initial assessment.

The Minnesota Twin Family Study (MTFS; Elkins, Iacono, Doyle & McGue, 1997) measured the behaviors and characteristics of 650 male and 650 female twin pairs in order to determine the developmental trajectory of conduct disorder. Two age cohorts were used, one starting at 11 years old and the other starting at 17 years old. Both cohorts were assessed once every three years until the cohorts were 20 and 26 years of age, respectively. The researchers found similar subtypes to the study by Moffitt et al. (1996). An antisocial personality disorder group (which could be considered more deviantly severe than conduct disorder) expressed conduct problems before they were 15 and the problems persisted into later adolescence. This is comparable to the life-course pathway. The conduct disorder group, on the other hand, had problems before 15 years of age, but the problems decreased after. This is similar to the adolescent-limited group.

Loeber, Wung, Keenan, Giroux, Southamer-Loeber, Van Kammen, and Maughan (1993) examined three pathways among three age-cohorts of boys (first, fourth, and seventh grades at initial assessment) over a period of three years. The cohorts, which each consisted of approximately 500 children, were from public schools in Pittsburgh, Pennsylvania, (55% African American and 45% Caucasian American). Three distinct patterns of behaviors emerged: a covert pathway was defined as moderate to serious forms of delinquency; an overt pathway consisted of more extreme physical deviance, such as fighting and other acts of aggression; and an authority conflict pathway consisted of behaviors that defied forms of authority. Although these individual pathways are important to note, combinations of the individual pathways appear to predict even higher frequencies of delinquent or violent acts. For instance, a combination of covert and authority pathways or a combination of overt, covert, and authority conflict pathways puts an individual at a great risk for committing both delinquent and violent acts. One implication from the results is a need to assess the deviant antecedents that predict later conduct problems.

Loeber and colleagues (Loeber, Green, Keenan, & Lahey, 1995) also studied the stability of externalizing problems in a sample of 177 boys over a six-year period. He and his colleagues demonstrated that having oppositional defiance disorder (ODD) in a year prior to the six-year follow-up was a significant and substantial risk factor (3.3 times that of adolescents never diagnosed with ODD) for having conduct problems in adolescence.

Other externalizing disorders may predict future conduct problems. Fischer, Barkley, Fletcher, and Smallish (1993), compared a cohort of 108 children meeting criteria for ADHD and 61 matched controls who did not meet criteria for any psychopathologies. The predominantly Caucasian American children, who were between four and 12 years of age at the initial phase of the study, were followed over a period of eight years. Similar to the Hart et al. (1995) study, both groups of children had declines in deviant behaviors over the period of the study. That is, symptoms of ADHD declined from the initial ages of four to 12 to the final ages of 12 to 20.

However, the clinical group still had clinically significant symptoms of deviant behaviors, demonstrating that there may be a natural developmental decline in deviant behaviors throughout childhood and adolescence but that clinically significant symptoms remain. This same group of hyperactive youth have also been found to have more negative academic outcomes and greater cigarette and drug use (Barkley, Fischer, Edelbrock , & Smallish, 1990).

Different types of aggressive acts can also predict different conduct problems in later adolescence. Vitaro, Gendreau, Tremblay, and Oligny (1998) studied a community sample of 742 low socioeconomic status boys from Quebec, Cananda. The boys were first assessed at 12 years of age and defined as either being proactive or reactive aggressive. Proactive aggressive boys commit aggressive acts in order to attain a goal, such as dominating other people or acquiring objects. Reactive aggressives, on the other hand, respond angrily, and many times violently, to provocation, such as being bullied. When these boys were assessed three years later, it was found that being proactively aggressive predicted delinquency and disruptive behaviors. Reactive aggressives did not display this trajectory, thus indicating that proactive aggressive children are at a higher risk for continued deviant acts.

A large sample of boys (789) and girls (630) from the Great Smoky Mountains Study of Youth were assessed to examine the difference between aggressive and non-aggressive conduct problem trajectories. The characteristics of the youth were first measured when the boys and girls were between 9 and 13 years old and were followed-up annually over a four-year period. The sample was predominantly Caucasian American (89.4%), with small percentages of African American (6.9%) and Native American (3.7%) children. Three trajectories became apparent from the analyses: stable-high aggressive, stable-low aggressive, and declining deviant behaviors. It was also found that boys were significantly over-represented in the stable-high aggressive group. Although some in the study had declining behaviors from middle childhood into adolescence, there was no evidence of an increase in deviant behaviors during this time period.

Drug use and abuse

The developmental progression of drug use has been studied by Ellickson, Hays, and Bell (1992) using a sample of 4,145 adolescents taken from schools in California and Oregon. This group of adolescents (52% females, 72% Caucasian Americans, 8% Hispanic Americans, 7% African Americans, 10% Asian Americans, and 2% Native Americans) was surveyed four times from seventh to tenth grades. The analysis of the data supports a seven-stage sequence of drug use. Initiation of alcohol precedes cigarette and marijuana use (these are considered gateway drugs), with weekly alcohol use, initial use of pills, weekly cigarette use, and initial use of hard drugs, in that order. Although the researchers found that sequences for all ethnic groups followed paths that included regular alcohol and smoking, the positioning within the sequence may vary.

Drug use in early adolescence has been studied as a predictor for later substance use and other delinquent behaviors (Windle, 1990). Data were taken from a subsample of 1,254 male and 1,157 female adolescents (57% Caucasian American, 25% African American, and 18% Hispanic) from the National Longitudinal Study of Youth (NLSY), who were 14 or 15 years old in 1980. Windle analyzed substance use and delinquent behaviors in 1980 (along with gender and ethnicity) as predictors of later substance use and aggressive behavior four years later. The findings support the notion that drug use in early to mid-adolescence predicts alcohol, cigarette,

and marijuana use, and aggressive behaviors in late adolescence. Being male and African American were also considered to be risk factors.

Summary

Overall, there appears to be considerable evidence that all externalizing disorders are stable over time. In fact, youth with disorders that begin early in life and persist throughout adolescence are the most at risk for continued negative outcomes. This conclusion is based on research that was conducted in various regions throughout the United States and New Zealand and that included ethnically diverse populations. However, symptoms that are presented for the first time in adolescence may dissipate naturally by early adulthood.

Individual Differences As Predictors of Externalizing Disorders

Various individual characteristics, such as gender, genetics, and personality characteristics have been found to be associated with drug use and abuse, but, surprisingly, high-quality longitudinal data were not found for the study of ADHD or conduct disorder on these topics; although there are data to support a genetic predisposition for ADHD and conduct disorder (Eaves, Silberg, Maes, Simonoff, et al., 1997; Levy, Hay, McStephen, Wood, et al., 1997). For conduct disorder, gender differences were found in a study of 408, predominantly African American (84.7%) children (mean=10.9 years) who were classified as either alcohol abstainers (n=304) or early users of alcohol (n=104) (Johnson, Arria, Borges, Ialongo, & Anthony, 1995). This sample (54.2% female) was followed for 2 years into early adolescence to determine if gender and alcohol use predict conduct problems. The researchers found that boys had significantly more conduct problems than girls at the initial assessment, but that both genders had similar growth rates of problems as they aged. This resulted in the prevalence of male conduct problems remaining higher than those of females in later adolescence. Regardless of gender, alcohol users had a higher rate of conduct problems than abstainers. The researchers concluded that unsanctioned use of alcohol (i.e., parents not giving the adolescent permission to drink nor monitoring any drinking behavior) could put a child on trajectory toward conduct problems in adolescence.

The processing of social information (i.e., social cognitive processing) has been implicated as an individual-level correlate of conduct disorder and aggressive behaviors. There are six steps in this theory (Crick & Dodge, 1994): 1) encoding of external and internal cues; 2) interpretation and mental representation of those cues; 3) clarification or selection of a goal; 4) response access or construction; 5) response decision; and 6) behavioral enactment. In other words, individuals experience a social situation, interpret that situation based on the present situation and past experiences, and then respond based on this interpretation. For those with conduct disorder and for those who respond aggressively, the interpretation of social cues are distorted so that the social situations are seen as more malicious as they really are. Youth with conduct disorder also generally perceive aggressive responses as appropriate for reducing aversive stimuli. Several studies with children have confirmed this model (see Crick & Dodge, 1994 for a review), but few studies on adolescents have been conducted. In one cross-sectional study, 4th and 7th grade teachers nominated male students who were non-aggressive, moderately aggressive, and severely aggressive (Lochman & Dodge, 1994). The youth were compared on several measures of social cognition. The researchers found that moderately aggressive and severely aggressive boys had social-cognitive difficulties compared to the non-aggressive youth.

The severely aggressive boys, likewise, had more difficulties than the moderately aggressive boys.

Other individual differences have been examined as antecedents to drug and alcohol abuse. Newcomb, Chou, Bentler, and Huba (1988) examined the cognitive motivations for alcohol and drug use. Using a cross-sectional sample of 1,068 10th, 11th, and 12th graders (66% female; 62% Caucasian American, 14% African American, 17% Hispanic, and 7% Asian) taken from Los Angeles County schools and a longitudinal sample of 847 that was an intentional subsample of the cross-sectional sample, the researchers found that there were four motivating factors related to both alcohol and drug use: 1) to enhance positive affect and creativity; 2) to reduce negative affect; 3) for social cohesion; and 4) because of addiction. For boys, more than for girls, enhancing positive affect and creativity was the motivation for marijuana use and social cohesion was the main reason for both alcohol and marijuana use. Another important finding was that motivation for use increased actual use. Alcohol motivation increased alcohol use while marijuana motivation increased use of all drugs.

Another longitudinal study examined three theoretical models to explain substance use (Wills, McNamara, Vaccaro, & Hirky, 1996). The researchers followed a sample of 1,184 adolescents (47% female and 53% male) from upstate New York from 7th to 9th grades. Cluster analysis of the data of the ethnically diverse sample (37% Caucasian American, 29% African American, 23% Hispanic) showed that there were four subgroups: non-users, minimal experimenters, later starters, and escalators. Overall, psychosocial variables from 7th grade predicted substance use in 9th grade. Escalators (those who became frequent users) had high life stress, nonadaptive coping strategies, deviance-prone attitudes, parental and peer substance use, low parental support, low academic competence, and low behavioral control. The experimenters (those who had tried but were not frequent users of drugs) and late starters (those who started using drugs later in their childhood/adolescence) were moderate on these factors, while non-users were very low on the risk factors.

Somewhat contradictory to these findings were results from a smaller study by Shedler and Block (1990). Data were from a sample of 101 (52 girls and 49 boys) 18 year olds who had been followed since they were three-year-old participants in either a university or cooperative preschool. The researchers found that the best-adjusted group of adolescents was the group classified as experimenters (mainly experimenting with marijuana), while those classified as non-users were found to be anxious, emotionally constricted, and lacking in social skills. Frequent users, consistent with other studies, were the most maladjusted, with a personality syndrome of interpersonal alienation, poor impulse control, and emotional distress. The authors concluded that frequent drug use is a symptom of maladjustment and that it is necessary to understand an individual's personality structure in order to understand why he or she is using drugs. These, and the previous correlational results show that both specific motivations and low regulatory control are associated with an increase in alcohol and drug use.

The emotional restraint of adolescents has also been examined in relation to later drug use. Farrell and Danish (1993) surveyed a group of 1,256 students (501 boys and 755 girls) at three time points: the beginning of seventh grade; the end of seventh grade; and the end of eighth grade. The sample, which was predominantly African American (91.9%), was taken from several schools in a southeastern United States city. The results suggest that those male adolescents who had low emotional restraint were significantly more likely to use gateway drugs (i.e., drugs taken at beginning of drug use trajectory that lead to harder drugs and drug use). Having relationships with peers who used drugs was predicted by previous gateway drug use.

One possibility for these findings is that adolescents use drugs to control artificially their emotions; something that they do not do on their own.

Caution should be taken when making generalized statements across ethnicity and gender about the antecedents of alcohol and drug abuse. According to an analysis of the National Survey of Adolescent Health (Add Health) the factors that predicted increased alcohol use varied according to gender and ethnicity (Blum, Beuhring, and Rinehart, 2000). For example, having a bad temper predicted increased alcohol use only for Hispanic females, while having parents who drink frequently predicted increased alcohol use for Caucasian American and African American females. In summary, individual motivations and regulatory control appear to be associated with alcohol and drug use. Those with low control and who use drugs as a coping mechanism or for higher social standing are more likely to be frequent users. These findings come from large studies that use ethnically diverse samples.

Proximal Antecedents[8]

Both parents and peers can have profound effects on an adolescent's externalizing behaviors. Parent smoking, drug and alcohol use, parent-child relationships, and family discord are all discussed as possible precursors to later adolescent conduct disorder and drug and alcohol use and abuse. Negative peer interaction quality and having negative peer role models have also been implicated. However, it is possible that it is the combination of all or some of these factors that predict adolescent outcomes.

Findings on the effects of both parenting practices and peer interactions, in fact, have questioned the common perception that SES has strong and significant effects on all problem behaviors. For example, in a project using the Add Health data set, Blum, Beuhring, and Rinehart (2000) studied several variables within the child's ecosystem that might predict various deviant behaviors. Relevant to this report, alcohol use was found to be predicted by individual, peer, and family level variables; socioeconomic status accounted for very little of the overall variance of the model, net of these more proximal factors. Overall, the family context comprised a very large percent of the variance predicting alcohol use among males, across ethnicities, while peers accounted for more of the variance among all females. Therefore, looking closer at the specific types and qualities of parent-child and peer interactions is important in order to understand completely what predicts adolescent externalizing disorders.

It is important to note that proximal antecedents of ADHD are not discussed in this section. Through our literature search, we found that antecedents for ADHD were restricted to the individual level. However, we do not contend that variables proximal to youth do not have significant effects. In fact, for younger children, multiple proximal factors such as parenting, sleep, diet, and genetics have been implicated as important antecedents of ADHD. Unfortunately, this research has not been replicated with adolescents. A broader discussion of factors within the ecosystem that may moderate ADHD symptoms can be found in the interventions and preventions section.

Conduct disorder

Parents and peers do not necessarily bring unique, non-overlapping, non-interacting influences into the equation. Patterson, DeBaryshe, and Ramsey (1989) proposed a model in

[8] Antecedents within the youth's ecosystem can be divided into two types: proximal and distal. Proximal factors are those people or things most directly in contact with the youth, including parents and peers. Distal factors are more distant aspects of the youth's environment, and include such things as the neighborhood and the media.

which antisocial children have families that are harsh and give inconsistent discipline. In addition, there is less positive parental involvement, monitoring and supervision of the child's activities. (Disruption in the family environment can be predicted by having antisocial parents and grandparents, being in a low socioeconomic status, and having multiple and/or severe life stressors. All of these factors, however, are thought to affect the family environment indirectly through family management practices; i.e., only affect the environment if there are weak and negative management practices or increase the risk of poor parenting.) It is theorized that this type of parenting teaches the child to act coercively with his or her parents, which results in antisocial behaviors. An escalation of poor parenting can occur as a result of the child's behaviors, which, in turn, reinforces the child's behavior even more. Because of the child's deviant and coercive behaviors, the authors theorize that children are rejected by their school peers and the children also experience academic failure. The model continues with a connection between peer rejection and subsequent membership in deviant peer groups that accept the deviant behaviors of the youth. Acceptance in such groups perpetuates the deviant behaviors of the adolescent. Although the authors cite numerous cross-sectional and longitudinal studies to support their claim, the authors have not statistically tested their theory in a single study.

With this proposed paradigm in mind, though, we first look at the proximal antecedents of conduct disorders (and other similar externalizing problems), with a focus on parent behaviors, parent-child interactions, family discord, and peer relationships. To begin, a mother smoking while pregnant can influence an adolescent's later externalizing disorders. Hill, Lowers, Locke-Wellman, and Shen (2000) examined the effects of maternal smoking during pregnancy on later adolescent psychiatric disorders. Using a sample of 150 18-year-old adolescents (eight to 18 years old at the initial assessment), the researchers assessed for evidence of depression, anxiety, conduct disorder, and oppositional defiant disorder (in essence, a less extreme version of conduct disorder). After controlling for confounding variables, maternal smoking during pregnancy was associated with the presence of oppositional defiance disorder at 18 years of age.

Parent smoking behavior after pregnancy has also been found to be associated with adolescent externalizing disorders. Fergusson, Woodward, and Horwood (1998) explored the effects of maternal smoking during pregnancy on the psychiatric adjustment of adolescents. Using data from the Christchurch Health and Development Study cohort (N=1,265), for children who were followed from birth to 18 years of age, Fergusson found that conduct problems were predicted by maternal smoking, even after controlling for socioeconomic disadvantage, poor child rearing behaviors, and parental and family problems. A similar study was conducted by Weissman, Warner, Wickramaratne, and Kandel (1999). Using a longitudinal design, the researchers followed the offspring of smokers and non-smokers over a 10-year period. Although the average age at follow-up was 27 years old (range=17-36), which is older than the age range with which this report is dealing, the results are interesting and are relevant considering their consistency with the previous study. After controlling for parental psychiatric diagnosis, family risk factors, prenatal and early developmental history of the offspring, postnatal smoking by parent and offspring smoking behaviors, the researchers found that parental smoking during pregnancy put male offspring at four times the risk for developing prepubertal-onset conduct disorder and a five-fold risk for girls to develop adolescent-onset drug dependency.

The presence in an adolescent's home life of harder drugs than tobacco may have serious implications. Loeber, Green, Keenan, and Lahey (1995) found further evidence for the association between parental substance use and behavioral problems and psychopathologies

among offspring. In their examination of risk factors for conduct disorder, they followed a cohort of 177 boys (aged seven to 12 years old at the initial assessment) from Pennsylvania and Georgia over a six-year period. The sample was predominantly Caucasian American (70%), but there were also a substantial number of African American boys (30%). The researchers found that parental substance abuse put adolescents at a risk 2.9 times for having conduct disorder than those who did not have parents who abuse drugs.

Parent-child and peer interactions were examined in a study conducted by Offord and colleagues (1992). The researchers used data from the Ontario Child Health Study, a data set of 4 to 16 year olds (this particular project only used 881 children who were 4- to 12-years-old) sampled from the Canadian census. After the initial assessment in 1983, a follow-up was conducted four years later. The ability to get along with others (e.g., peers and other adults) and family dysfunction both were predictive of later conduct problems. However, the researchers caution that these factors could, in fact, be symptoms of the disorder, not predictors. In addition, stability from childhood to adolescence and comorbidity between conduct disorder with hyperactivity and emotional disorders was apparent.

The effects of parenting and social interactions can also be seen in an experimental study conducted by Tremblay, Pagani-Kurtz, Masse, Vitaro, and Pihl (1995) in Montreal, Canada. Disruptive kindergarten boys were placed either in a treatment group, an attention-control group, or a control group. The treatment was comprised of teaching parents high quality parenting styles (e.g., using an authoritative parenting style) and teaching the child how to interact with peers. From annual follow-up assessments between the ages of 10 and 15 years of age, the treatment group was found to exhibit significantly fewer delinquent behaviors than either of the control groups. Although the effect sizes were relatively small by the time the youth were 15 years old, the results support the conclusion that parenting styles and peer interactions predict behavioral problems.

Familial factors aside from parental smoking and parent-adolescent interactions are also associated with conduct problems. For instance, Fergusson, Horwood, and Lynskey (1994) examined the effects of parental separation on problem behaviors, depression, and substance use among adolescents. Data were used from a sample of 935 adolescents, who took part in the Christchurch Health and Development Study. They were followed from birth to 15 years of age. After controlling for social and contextual factors, exposure to parental separation was found to significantly increase the odds of adolescents having substance abuse disorders, or engaging in conduct problems.[9]

Research has shown that parental monitoring and interacting with deviant peers is associated with an increase in conduct disorder, above and beyond developmental trajectory. Pettit, Laird, Dodge, Bates and Criss (2001) assessed the effects of parental monitoring and psychological control (e.g., "my mother is always trying to change how I feel or think about things") among 438 early adolescents followed from 8-10 years old until the youth were 13-14 years old. Parents, the students, and teachers were asked to rate the externalizing behavior of the students when they were seventh graders. The sample was predominantly Caucasian American (81%; 17% African American; 2% other ethnic groups) with a relatively equal number of males (52%) and females (48%). The researchers found that higher levels of monitoring was associated with fewer future delinquent behaviors. Psychological control was associated with delinquent behaviors, but only for girls. More specifically, high levels of control were associated

[9] Also, as mentioned in the internalizing disorders section, this study found that parental separation significantly increased the odds of an adolescent having a mood disorder.

with more delinquent behaviors for girls who exhibited few delinquent behaviors preadolescence. High psychological control was also associated with more instances of anxiety and depression for girls who were high in preadolescent anxiety and depression.

Pettit, Bates, Dodge, and Meece (1999) measured the amount of time spent with peers with no adult supervision, parental monitoring, and neighborhood safety. Using the same sample as the previous study, they found that engaging in externalizing problem behaviors in sixth grade was found to be the most predictive of conduct problems in seventh grade compared to the other antecedents. This should not be much of a surprise considering the relatively short interval between assessments. A lack of parental monitoring, including when the child is with his or her peers, and living in an unsafe neighborhood were also moderately strong predictors of future behavioral problems. However, the relationship between unsupervised peer contact and problem behaviors in seventh grade only held for those who had externalizing problems in sixth grade. This could support Patterson, DeBaryshe, and Ramsey's (1989) contention that engaging in deviant behaviors could lead to belonging to deviant peer groups. An interaction among unsupervised peer activity, parental monitoring, and living in an unsafe neighborhood revealed that those who lived in an unsafe neighborhood who had parents who did not monitor their actions and who spent much time with peers were at greatest risk for having conduct problems in seventh grade.

More support for Patterson, DeBaryshe, and Ramsey's (1989) theory of deviant group membership comes from a study conducted by Fuligni, Eccles, Barber, and Clements (2001). A group of 1,253 adolescents completed surveys in the 7th, 10th, and 12th grades in order to determine the effect that peers have on adolescent adjustment during high school. The sample, taken from several schools in Michigan, was fairly balanced by gender (54% females and 46% males), but it was predominantly Caucasian American.[10] Although 7th grade adjustment was a significant predictor of later behavior problems, being involved with deviant peers and low family cohesion each added significant variance to the model. The authors theorized that having low family cohesion results in adolescents becoming overly involved with their peers. If those peers are deviant, then negative behaviors will emerge. A study by Capaldi, Dishion, Stoolmiller, and Yoerger (2001) further supported the theory that deviant peer group membership is related to later conduct problems. A sample of 206 predominantly Caucasian American (90%) and low to working class (75%) fourth grade boys were followed prospectively over a 10 year period. Results showed that engaging in antisocial behaviors between 9 and 12 years of age was related to continued antisocial behavior, as were deviant peer associations in early to mid-adolescence. The deviant peer associations were subsequently related to antisocial behaviors in late adolescence (as were previous antisocial behaviors) and were indirectly related, through later delinquent behaviors, to aggression toward an intimate partner in early adulthood. Overall, this study shows that engaging in antisocial behaviors may result in future associations with deviant peer groups, which could exacerbate the adolescent's delinquent behaviors.

The proximal factors described for conduct problems may also have an effect on adolescent substance use and abuse. Regarding parent-child interactions, a one-year prospective study of 441 children and adolescents (207 females and 234 males; mean age=12.7 years, range=10.5 to 15.5 years) and their parents was conducted to examine the reciprocal nature of the adolescent-parent relationship. Families were either Caucasian American (74%) or Hispanic (25%). The results demonstrated that perceived-parental-support and control were inversely

[10] Of the total sample, completely longitudinal data were available for 820 students, with the rest of the cohort comprised of students who had not completed questionnaires in the 10th grade.

related to adolescent substance abuse a year later. Parental alcoholism and previous adolescent substance abuse were also related to later substance use. An association between perceived parental control and support and adolescent substance use was found, as well.

Post-natal familial drug and alcohol use, not just smoking, has also been implicated in later adolescent externalizing problems. Testing for the antecedents of adolescent substance use, Duncan, Duncan, and Hops (1996) assessed the effects of parent and older sibling substance use on the drug use of adolescents. Data were gathered from 101 adolescents (50 boys and 51 girls and their families - siblings and parents) prospectively over a three year period starting at approximately 12 years of age. The majority of the adolescents were Caucasian American (90%). Although findings indicate that the best predictor of the adolescent's later drug use was the adolescent's developmental trajectory, siblings, but not parents, were found to have a strong indirect influence on adolescent use (either by being the source for drugs for the adolescent or by encouraging continued use). The parents' use of drugs was found to be associated with adolescent use of drugs, but not necessarily to the initiation of adolescent's substance use.

Parental alcoholism can play a role in the development of adolescent externalizing problems. DeLucia, Belz, and Chassin (2001) examined the effects of paternal alcoholism on the externalizing disorders of adolescents. This prospective study consisted of three annual assessments and used a sample of 267 families that were either Hispanic or non-Hispanic White. The children in the study ranged in age from 10.5 to 15.5 years old. The researchers found that less than optimal parenting (e.g., inconsistent discipline) resulted from paternal alcoholism. This was the case whether the father was recovering or not. Children of recovering fathers had more internalizing and externalizing problems and were at greater risk for becoming heavy drinkers, compared with a control group. The presence of paternal antisocial personality disorder was found to be significantly correlated with parental alcoholism, and therefore parental antisocial personality disorder should be considered a possible unique contributor to the adolescents' psychological well-being.

Drug use and abuse

Looking more discretely at drug use, Chassin, Curran, Hussong, and Colder (1996) examined the role of parent alcoholism on adolescent substance use. A total of 316 children and adolescents (aged 10.5 to 15.5 years old) were assessed annually at three times. In the sample, 47% were female and 79% were Caucasian American (21% were Hispanic). The researchers found that boys who had alcoholic fathers were at a significantly higher risk of using drugs than girls who did not have alcoholic fathers. The reasoning behind this association was explained, in part, by alcoholism predicting lower levels of parental monitoring. Low levels of parental monitoring subsequently predicted adolescent associations with drug-using peers that predicted an increase in substance use over time.

The combination of parent and peer factors as they relate to substance use has been explored by Jessor, Van Den Bos, Venderryn, Costa, and Turbin (1995). They sought to test a model of developmental change in which the environment is considered to be dynamic with multiple factors working in concert. The project included a sample of 1,591 seventh-, eighth- and ninth-grade students (36% Caucasian American, 22% African American, 4% Asian American, 2% Native American) who were followed over a three year period. The students were asked about their protective environment (e.g., their parents and their peers) as well as their own personality and prosocial behaviors; both are considered to be protective factors for the youth. The findings support a model in which environmental and personal protective factors moderate

the effects of risk (deviant and negative peer and parent models) on adolescent problem behaviors; the fewer protective factors that are in place, the greater the effect the risk factors will have on deviant behaviors such as drinking and using drugs.

Summary

In summary, parenting practices, parenting behaviors, and peer relationships act alone and in concert with each other to predict conduct disorder and substance use. Parents who smoke during or after pregnancy, take drugs themselves or are alcoholics tend to have children who have conduct disorder, oppositional defiant disorder, or who take drugs or drink alcohol. Sibling use of drugs has similar associations with adolescent externalizing disorders. Disruptions in the family environment, such as divorce, can also lead to prolonged deviant behaviors. Having peers who are negative role models who interact in deviant ways with the adolescent may lead to the adolescent taking drugs or perpetuating behaviors consistent with conduct disorder.

Distal Antecedents of Internalizing and Externalizing Disorders[11]

Little strong evidence exists on distal factors for externalizing disorders. Moreover, the research that has been conducted tends to cluster both internalizing and externalizing disorders together.

Neighborhood effects

The type of neighborhood in which one lives can moderate the effects of individual risk factors. For instance, neighborhood effects were explored by Aneshensel and Sucoff (1996) in a sample of 877 adolescents in Los Angeles county. This cross-sectional study of ethnically diverse (48.5% Latino, 25.8% Caucasian American, 11.4% African American, and 10.6% Asian American) 12 to 17 year olds (46.7% female and 53.5% male) examined how factors such as SES and racial segregation can predict the presence of psychopathologies. The analysis demonstrated that African American and Latino underclass adolescents were more likely to be in subjectively hazardous environments than others who were middle and upper class, or who were Caucasian American and Asian American underclass adolescents. The perception of living in a hazardous environment was subsequently related to an increase in depression, anxiety, and oppositional defiance disorder. However, although the effects were significant, they were small.

Additionally, Lynam, Caspi, Moffitt, Wikstrom, Loeber, and Novak (2000) examined, both cross-sectionally and longitudinally, how neighborhood and impulsivity factors interact to affect antisocial behaviors. In the first of two studies, a sample of 259 high-risk and 249 comparison boys from the Pittsburgh Youth Study were assessed for impulsivity and delinquency. Census data were used to define the neighborhood context (i.e., low poverty/high SES vs. high poverty/low SES). The boys were in fourth grade at this initial phase. The results showed that the effect of impulsivity on antisocial behavior varied by the type of neighborhood in which the child lived, with those in high poverty neighborhoods exhibiting significantly more antisocial behaviors than those from low poverty neighborhoods. This finding was tested longitudinally using a subsample of the initial sample who were followed over a six to seven year period. This cohort of 80 African American boys were asked similar questions to those

[11] Antecedents within the youth's ecosystem can be divided into two types: proximal and distal. Proximal factors are those people or things most directly in contact with the youth, including parents and peers. Distal factors are more distant aspects of the youth's environment, and include such things as the neighborhood and the media.

asked during the initial assessment, but were also asked to give a subjective opinion of their neighborhood quality (this variable was used in place of more objective data such as census data). The longitudinal results corroborated the cross-sectional findings, with the effects of impulsivity on antisocial behaviors moderated by neighborhood quality. Impulsive youth living in low quality neighborhoods were significantly more likely to engage in antisocial behaviors than impulsive youth living in subjectively high quality neighborhoods.

Family economic stability

Aside from the economics of the surrounding neighborhood, the economic stability of a family has been hypothesized to have an indirect effect on adolescent well-being. Conger, Conger, Elder, Lorenz, Simons, and Whitbeck (1993a) tested this hypothesis on a sample of 205 Caucasian American seventh-grade boys from the Midwest. In this cross-sectional study, the researchers measured family economic pressure, parents' depressed mood, marital conflict, parenting style (i.e., nurturant/involved parenting), and adolescent positive (school performance, positive peer relations, and self-confidence) and negative (antisocial behaviors, depression and hostility) development. The resulting model demonstrated that economic hardship was positively related to parental depression. Parental depression was subsequently related to marital conflict. Marital conflict predicted parenting style, though parental depression also had a partial influence on parenting style. Finally, parenting style was directly related to the positive or negative development of the youth, with more nurturing parents raising better-adjusted children. The researchers (Conger, Conger, Elder, Lorenz, Simons, & Whitbeck, 1993b) conducted a similar study with a cohort of 220 7th grade Caucasian American girls from the same area of the country. Overall, a similar model resulted. However, lower parental depression both directly and indirectly predicted positive adjustment. Greater parental depression only had an indirect effect on negative adjustment (depression, antisocial behaviors, and hostility).

These two studies demonstrate that distal level factors (in this case economic stability) are indirectly associated with youth development through family processes such as marital conflict and parenting.

Media effects

The relatively recent explosion of internet use among American children and youth has progressed much faster than the research surrounding the effects of use. One of the few studies conducted involved 73 households in their first one to two years online (Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, & Scherlis, 1998). Participants (231 individuals from the 73 families) were given computers, internet access, and software for e-mail and their usage was tracked for 12 to 24 months. The researchers found that greater internet use was correlated with decreased amounts of family communication, an increase in loneliness, a decrease in social circle size, and an increase in depression. These findings remained even after accounting for loneliness, depression, family communication, and social circle levels at the pre-test phase. However, the process among the outcomes (e.g., does loneliness lead to depression?) was not examined. It should be noted that this is one study on a small sample engaging in a specific type of internet use. Further research is necessary before more definitive conclusions can be made.

As was noted previously, there is little research specifically on distal level antecedents of internalizing disorders. However, theory abounds regarding the effect of the media on eating disorders. The sociocultural context is thought to be very important, and over the years, the "thin ideal" has increased. Thinness is currently considered to be an important aspect of attractiveness

and femininity, and girls and adolescents who endorse traditional female sex role stereotypes will try to acquire those attributes. Furthermore, theorists in the area believe that girls are socialized early in life to believe that appearance is very important - it has been found that much of the positive feedback they receive has to do with appearance, instead of intelligence and performance, as is true for boys. As a result, if girls learn to evaluate themselves in terms of their appearance and how they think others see them, that can lead to low self-esteem and a negative body image (Striegel-Moore, Silberstein, & Rodin, 1986; Wilson, Heffernan, & Black, 1996).

A connection has also been drawn between eating disorders and exposure to the "thin ideal" in the media. Much of the research has been done with college populations and young adults, but Harrison (2000) explored the idea with a sample of 366 male and female 6th graders, 9th graders, and 12th graders. A questionnaire was used to assess eating attitudes and habits, and preferences for certain television shows and magazines. Preferences for thin-ideal magazines predicted eating disorders, but TV exposure did not. Even if connections can tentatively be made between one kind of thin ideal media and eating disorders from this study, results should be viewed with caution due to its correlational design. It is hard to determine the direction of the relationship—does media exposure lead to eating disorders, or do those with eating disorders learn to prefer and choose thin-ideal media as a result of their disorders?

Prevention and Intervention Strategies

There has been a relative dearth of research on adolescents, compared to research on adults, on prevention and intervention strategies for internalizing and externalizing disorders. However, there is evidence from meta-analyses that primary prevention programs that target either the environment or the individual are effective in reducing the occurrence of later mental health and externalizing problems (e.g., Durlak & Wells, 1997). Looking at specific programs, some interesting findings have emerged. Overall, across internalizing and externalizing disorders, multicomponent programs that focus on two or more factors within an adolescent's ecosystem appear to be more helpful than programs focusing on only one factor. To reiterate from the methodology section, only those evaluations that used an experimental design (i.e., randomly assigned experimental and control groups) are included.

A note on implementation

The reader should note that few of these studies have had an analysis conducted on the success of the implementation of the programs. In other words, the fidelity of the program has generally not been part of the analyses regarding whether the program works. Domitrovich and Greenberg (2000) found that out of 34 programs that they determined were effective in reducing child problem behaviors, only 59% had any sort of implementation analysis and only seven (21%) used more than one dimension of implementation (e.g., dosage, participant responsiveness, program adherence). This lack of exploring the implementation of a program has the potential to hinder the conclusions drawn from the findings. If the results reflect programs that were not implemented properly, then program designers and practitioners will not know if the program described is really the program that was given to the participants nor will they know if specific portions of the program were ineffective while others were effective. Furthermore, implementation analyses can shed light on more subtle happenings in a prevention or intervention strategy. For instance, in the programs that Domitrovich and Greenberg (2000)

review, the researchers note that high fidelity participants are significantly more likely to have positive effects from programs than low fidelity participants. Therefore, readers should be cautiously optimistic of effective programs that do not discuss the implementation of the program (or cautiously pessimistic of programs that were found not to be effective).

Depression and anxiety

Cognitive-Behavioral Therapy

Multiple randomized control-group studies have supported the effectiveness of cognitive-behavioral therapy for treating depression and anxiety. More specifically, there is substantial evidence that cognitive-behavioral therapy is significantly more effective than no treatment. However, it is not as clear whether cognitive-behavioral therapy is more effective than alternative forms of psychotherapy such as family therapy or non-directive psychotherapy.

Brent, Holder, Kolko, Birmaher, Baugher, Roth, Iyengar & Johnson (1997) randomly assigned 107 adolescents (13 to 18 years old) with major depressive disorder to one of three groups: cognitive-behavioral therapy,[12] systemic behavior family therapy and a wait-list control group. The majority of the sample was Caucasian American (85%) and female (75%). The researchers found that adolescents in the cognitive-behavioral therapy treatment showed lower rates of major depressive symptoms than either the family therapy or wait-list groups. Somewhat similar results were found by Reynolds and Coats (1986) in their comparison of cognitive-behavioral therapy, relaxation training and no treatment. The researchers randomly assigned 30 moderately depressed high school students to one of the three experimental groups. They found that the cognitive-behavioral therapy and relaxation training groups were functioning at a superior state compared to the wait-list control group at the five-week follow-up. A comparable randomized study conducted with 68 6th, 7th and 8th graders, who were moderately to severely depressed, again showed that cognitive-behavioral therapy and relaxation therapy results in significant clinical improvements, compared to a wait-list control group. Lewinsohn, Clarke, Hopes & Andrews (1990) compared cognitive-behavioral therapy to cognitive-behavioral therapy plus parent training (i.e., instructing the parents on what the youth learn in order to promote acceptance and understanding) and a wait-list control. The 59 depressed youth (mean age was approximately 16 years old) were randomly assigned to one of the three groups. Results show that both treatment groups were significantly better than the wait-list control group, though no differences were found between the two treatments. Clarke, Rohde, Lewinsoh, Hops and Seeley (1999) conducted a replication study and found the same results. The researchers randomly assigned 123 youth (14 to 18 years old) to a cognitive-behavioral therapy, cognitive-behavioral therapy plus parent training or a wait-list control group. Immediately after treatment, both treatment groups showed significant improvement over the control group, with two-thirds of the treatment groups no longer meeting criteria for major depression compared to 48% of the wait-list control group. Furthermore, only 25% of youth across the study experienced a relapse at the two-year follow-up. Preliminary evidence for the cross-cultural effectiveness of

[12] Cognitive-behavioral therapy (CBT) is a type of psychotherapy based on the theory that negative emotions and behaviors are the result of faulty and maladaptive thinking. CBT focused on changing an individual's thoughts in order to change negative emotions and/or behaviors. This is different that psychoanalysis which is based on the theory that subconscious thoughts, memories and motivations drive conscious thoughts and behaviors. Psychoanalysis has not been the focus of many rigorous evaluations and no randomized experimental studies have been conducted on the psychoanalytical treatment of adolescent depression or anxiety.

psychotherapy on the reduction of depressive symptoms is provided by Rossello and Bernal (1999) who randomly assigned 71 Puerto-Rican adolescents (13 to 18 years old) to either a cognitive-behavior therapy, an interpersonal therapy or a wait-list control group. The adolescents had been diagnosed with major depressive disorder, dysthymia or both disorders. The researchers found that cognitive-behavior therapy and interpersonal therapy both significantly reduced depressive symptoms compared to the control group. In fact, adolescents who received one of the therapies were functioning better than 72% of the control group.

Cognitive-behavioral therapy also has the potential to prevent depression among youth at high-risk for becoming depressed. In one study (Clarke, Hawkins, Murphy, Sheeber, Lewinsohn & Seeley, 1995), researchers randomly assigned 150 youth (9th and 10th graders) who had been pre-screened as having elevated depressive symptoms, but who did not meet criteria for major depressive disorder or dysthymia, to a cognitive-behavioral therapy group or a "usual care" control group. In the control group, youth were free to continue with any existing treatment or seek any new assistance. The sample consisted of 105 females (70%) and 45 males (30%). The researchers found at the 12-month follow-up that significantly fewer youth in the cognitive-behavioral group (14.5%) had an affective disorder compared with the control group (25.7%).

The possibility exists that one type of psychotherapy is not better than another and that the process of talking about problems in a supportive setting is what is important. For instance, Birmaher, Brent, Kolko, Baugher, Bridge, Holder, Iyengar and Ulloa (2000) randomly assigned 107 youth (13 to 18 years old) to a cognitive-behavioral therapy, family systemic therapy or nondirective supportive therapy (i.e., the therapist provides support during treatment, but does not use a specific treatment protocol) group. All of the youth met clinical criteria for major depressive disorder. After the 12 to 16 weeks of treatment, the researchers found that participants from all three groups attained significant mental health improvements, with 80% recovered at follow-up (a median time of 8.2 months). However, there were no differences among the treatment groups. Another study, by Vostanis, Feehan, Grattan and Bickerton (1996), compared cognitive-behavioral therapy and a non-focused intervention (similar to the nondirective supportive therapy of the previous study). Fifty-six participants (eight to 17 years old; 32 females and 25 males) who had met criteria for major depressive disorder were randomly assigned to one of the two treatment groups for a period of 18 weeks, with one treatment session every two weeks. At the nine-month follow-up after treatment completion, the researchers found that 55% of youth had been symptom free prior to the follow-up and that 62.5% no longer met criteria for any psychiatric disorder, including depression. As in the Birmaher et al. (2000) study, there was no difference between the two therapies.

Psychotherapy, and more specifically cognitive-behavioral therapy and systematic desensitization, has also been found to reduce anxiety symptoms.[13] Two randomized experimental studies of adolescents have been conducted examining the impact of systematic desensitization on youth phobias. In one, Kondas (1967) randomly assigned 23 youth (11 to 15 years old) who were assessed as having a social phobia to one of four groups: imaginal systematic desensitization (i.e., the youth picture the fearful situation), presentation of fearful situation without being paired with relaxation training, relaxation training, or a no-treatment control. From the results, Kondas concluded that imaginal systematic desensitization was superior to the other treatments and to the no-treatment control. In another study, 67 youth (six

[13] Systematic desensitization is used for phobias and involves pairing a relaxed response with a conditioned fear response. For phobias, cognitive-behavioral therapy oftentimes combines a systematic exposure to the feared object or situation with changing the individual's thoughts about the object or situation.

to 15 years old) presenting with a diversity of phobias were randomly assigned either to a standard systematic desensitization group (i.e., presented with the actual feared object or situation), generic psychotherapy group, or a wait-list control group (Miller, Barrett, Hampe & Noble, 1972). Participants from both treatments significantly improved compared to the control group, but there was no difference between the treatments. Considering the multitude of specific and social phobias, two studies probably do not capture whether systematic desensitization is an effective treatment approach. More research is needed on a more diverse set of phobias.

Several studies point to the effectiveness of cognitive-behavioral therapy in reducing anxious and phobic symptoms. For instance, Barrett, Dadds and Rapee (1996) randomly assigned 79 seven- to 14-year-old youth to a cognitive-behavior therapy, cognitive-behavior therapy plus family management or a wait-list group. The youth had been diagnosed with separation anxiety, overanxious disorder or social phobia. At the six-month follow-up, the researchers found that 69.8% of the youth in the treatment condition no longer met diagnostic criteria for an anxiety disorder, compared to only 26% in the control condition. The researchers also found that including family management with cognitive-behavior therapy has an additive effect (at the 12-month follow-up, 95.6% of youth no longer met criteria compared to 70.3% of youth in the cognitive-behavioral therapy only group). The additive effects of parental involvement were assessed in a randomized control study of 50 seven to 14 year olds suffering from social phobia (Spence, Donovan & Brechman-Toussaint, 2000). Youth were assigned either to a child-only cognitive-behavioral treatment, a cognitive-behavioral therapy plus parent treatment or a wait-list control group. Results showed a significant improvement for both treatment groups compared to the control group. However, there was not a significant difference between the treatments. The results were sustained at a 12-month follow-up.

In another randomized control study, 56 children and youth (mean age = 9.96 years old; range = 6 to 16 years old) were assigned either to a group cognitive-behavioral therapy group or to a wait-list control group (Silverman, Kurtines, Ginsburg, Weems, Lumpkin & Carmichael, 1999). The participants (34 boys and 22 girls) had been diagnosed with either social phobia, overanxious disorder or generalized anxiety disorder. The results indicate that the treatment group showed substantial improvements and that the improvements were sustained over three, six and 12-month follow-ups. The wait-list control group did not show any significant improvement. In two randomized trials, Kendall (Kendall, 1994; Kendall, Flannery-Schroeder, Panichell-Mindel, Southam-Gerow, Henin & Warman, 1997) found that anxious youth (nine to 13 years old) who received a cognitive-behavioral treatment functioned significantly better than anxious youth in a wait-list control group. The first study had 47 youth, of whom 78% were white (Kendall, 1994), and the second study had 94 youth, of whom 87% were white (Kendall et al., 1997).

A recent study by Flannery-Schroeder and Kendall (2000) compared group cognitive-behavioral therapy, individual cognitive-behavioral therapy and a wait-list control group. The researchers randomly assigned 37 eight- to 14-year-old youth to these groups. After the nine-week treatment period, the researchers found that significantly more treatment participants (73% individual and 50% group) no longer met criteria for an anxiety disorder compared to the control group (8%). These treatment gains were maintained at a three-month follow-up. The use of a single session has even been found to be effective for the treatment of specific phobias among youth. Ost, Svensson, Hellstrom & Lindwall (2000) randomly assigned 60 children and adolescents (mean age = 11.7 years) to a one-session exposure treatment group, a one-session

exposure plus parent support treatment group or a wait-list control group.[14] The sample consisted of 37 girls (61%) and 23 boys (39%). The researchers found that both treatment groups' symptoms were significantly reduced compared to the control group. Furthermore, the treatment groups did not differ from each other.

A number of important issues remain for program developers to understand. First, there are multiple types of psychotherapies. Researchers have tentatively found behavioral and cognitive-behavioral therapies to be more effective than non-behavioral therapies, such as psychoanalysis (Weisz, Weiss, Han, Granger, & Morton, 1995). There is not consistent evidence, however, that one specific type of cognitive-behavioral therapy is better than another or that non-behavioral therapies are ineffective. Also, researchers have noted that there appears to be a difference in effect sizes between laboratory and natural settings (Kazdin & Weisz, 1998). An analysis of clinic- versus lab-based research (Weisz, Donenberg, Han & Weiss, 1995) concluded that the severity of cases seen in clinics, the more conducive settings of lab treatments and the focus of lab treatments on behavioral treatments compared to a clinic focus on eclectic therapeutic methods could all account for differences in mental health outcomes. However, additional research is necessary before conclusive reasons behind the differences are known.

Another caveat to psychotherapy research is that most has been conducted on predominantly Caucasian American samples. Considering cultural differences among various ethnicities, including social interaction styles and taboos about mental health, more research is necessary on ethnic minority groups to determine whether psychotherapy is, in fact, effective for all youth. Also, the long-term effects of psychotherapy on youth are not known, such as whether youth learn skills to prevent relapse or whether psychotherapy works only for diminishing current symptoms. Finally, there is much diversity within internalized disorders, including comorbidity with other internalized or externalized disorders. More research is needed to determine whether and how comorbidity affects treatment effectiveness. However, preliminary evidence does not indicate a difference by comorbidity (Weisz et al., 1995).

Antidepressants

There is substantial evidence from experimental studies that serotonin select-reuptake inhibitors (SSRI's)[15] are effective for treating adolescent depression and anxiety. Positive impacts of SSRI's on depression have been found in two recent experimental studies. In one, Emslie, Rush, Weinberg, Kowatch, Hughes, Carmody and Rintelmann (1997) randomly assigned 96 children and youth (ages 7-17) to a fluoxetine (a type of SSRI) or placebo group for an eight-week period. This was a double-blind study.[16] However, the treatment period was preceded by a two-week diagnostic period and a one-week single-blind placebo period. The researchers found that the fluoxetine group responded more positively than the placebo group (56% vs. 33%). However, only 31% of the fluoxetine group and 23% of the placebo group had complete remission of symptoms. Keller et al. (2001) conducted the first large-scale study of effects of a SSRI called paroxetine (known commercially as Paxil) on adolescent depression. Two hundred seventy-five youth from 12 psychiatric centers were randomly assigned to one of three double-blind treatment groups: paroxetine, imipramine (a tricyclic), or placebo. The researchers found

[14] The exposure treatments include encountering the object of the phobia (e.g., a spider) and analyzing the youth's cognitions about what he or she thinks will happen when encountering the object.

[15] SSRI's are drugs that increase the amount of serotonin, which is a type of neurotransmitter and is theorized to increase positive mood, in the brain.

[16] In a double-blind study, neither the clinician nor the patient know whether the patient is receiving the treatment drug or a placebo.

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that 63% of the paroxetine group had a reduction in depressive symptoms, compared to 50% of the imipramine and 46% of the placebo group.[17] [18]

Two recent experimental studies provide support for SSRI's effectiveness in reducing anxiety. In one study on the use of fluvoxamine (another SSRI) to treat anxiety disorders in children and adolescents (The Research Unit on Pediatric Psychopharmacology Anxiety Study Group, 2001), 128 children and youth between six and 17 years of age who met criteria for social phobia, separation anxiety disorder, or generalized anxiety disorder were randomly assigned either to a fluvoxamine (a SSRI) or placebo group for an eight-week period. Both of these groups received psychotherapy for three weeks prior to the study with no effect. The fluvoxamine group had a significant mean decrease on the Pediatric Anxiety Rating Scale.[19] Also, 48 of 65 youth in the experimental group responded to treatment as evidenced by the Clinical Global Impressions-Improvement Scale as compared to just 19 of 65 in the placebo group. In short, the fluvoxamine group had a significant reduction in anxiety symptoms compared to the placebo group. A much smaller double-blind randomized study compared a different SSRI, sertraline, to a placebo in 22 youth between the ages of five and 17 (Rynn, Sieuqeland & Rickels, 2001). The participants had been diagnosed with generalized anxiety disorder. The researchers found that sertraline, given as a 50mg dose/day resulted in significant decreases in anxious symptoms compared to the placebo group. They found no significant side-effects.[20]

Furthermore, research suggests that tricyclics,[21] another type of antidepressant, appear to be ineffective for treating depression. For instance, the effectiveness of tricyclics was considered in a review of all double-blind,[22]placebo-controlled efficacy trials of tricyclic antidepressants with depressed youth published between 1985 and 1994 (Sommers-Flanagan & Sommers-Flanagan, 1996). The researchers conclude that tricyclics are no more effective than a placebo even in studies designed to maximize the effects of the antidepressants. The authors note, very importantly, that the lack of evidence could be a byproduct of poorly conducted evaluations. Also, the sample of studies that the authors chose was very small (i.e., five). However, a more recent, rigorous review of experimental research on the effectiveness of tricyclics on adolescent depression continued to show that they do not work (Hazell, O'Connell, Heathcote, & Henry, 1999).

Summary

In summary, there appears to be substantial evidence that cognitive-behavioral therapy is effective for treating anxiety and depression in adolescents. Although cognitive-behavioral

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[17] The authors note, however, that two studies of this size and quality are needed for Food and Drug Administration (FDA) approval. The FDA has not approved any antidepressants to be used with adolescents. A second large-scale study of SSRI's is currently in progress.

[18] The reader should note that the non-SSRI groups had a relatively high rate of improvement. Improvements by placebo and other comparison groups in this and other studies could be explained by many scenarios, such as some patients not being as depressed as originally diagnosed, some patients being at the end of a depressive episode when the study commenced, or some patients responded to seeing a doctor. More research is needed to study these and other possibilities.

[19] The reader should note that there is substantial overlap between the two distributions of scores, showing that there is variance regarding the effects of the medication as compared to the placebo.

[20] More research is necessary before FDA approval can be obtained.

[21] Tricyclics act to increase the amount of catecholamines, a type of neurotransmitter, in the brain.

[22] In a double-blind study, neither the clinician nor the patient knows who is receiving the actual drug and who is receiving the placebo. Double-blind, randomized control-group studies are the gold standard for drug research.

treatments are the most evaluated treatment, it is not yet known conclusively whether this type of psychotherapy is better than other types. However, cognitive-behavioral treatments have been found to be consistently more effective than no-treatment, thus leading us to conclude that these treatments work. This finding is especially important for youth who do not respond to medication or cannot tolerate medication, or for families that are not disposed to use medication. More research is needed, however, before there is an understanding of why some treatments work better than others, whether the treatments work equally well across sub-groups of youth and whether the treatments have long-term beneficial effects.

There is substantial research to support the effectiveness of SSRI's to treat depression and anxiety. There is new evidence to suggest that SSRI's are important for the treatment of depression. However, tricyclics appear to be ineffective. More research on the combination of SSRI's and psychotherapy is essential for determining whether each of these treatments produce an additive effect on youth outcomes or whether only one type of treatment is necessary.

Finally, it is very important to note that psychotherapy and pharmacotherapy do not work for everyone. The positive findings cited in this section are all based on group-means. Across all of the studies, there were many participants within the treatment groups that did not improve and others in the placebo or control groups who did improve without treatment. However, those in the treatment group were more likely to improve.

Eating disorders

For the individual treatment of eating disorders, the first goal of treatment is to restore normal eating patterns and normal weight. With anorexia nervosa, hospitalization may be required to achieve these goals. Since most cases of bulimia are not as severe, hospitalization would most likely not be necessary. Medications are not effective in combating anorexia, but antidepressants have been found to help with bulimia (Barker & O'Neil, 1999). Psychotherapy and behavior therapy (reinforcing a patient, either verbally or through granting a privilege, for appropriate eating behaviors) have been found to be effective for both, and family therapy is thought to be very important for adolescent anorexics (Barker & O'Neil, 1999). Cognitive behavioral therapy has been found to be effective in the treatment of bulimia. The therapy seeks to alter dysfunctional beliefs about the importance of weight and shape, and to teach coping strategies to resist binging and purging (Smith, Marcus, & Eldredge, 1994).

School based programs have been implemented to combat the onset of eating disorders, but most prevention programs have failed to demonstrate effectiveness (Binford & Fulkerson, 2000). For example, in a long-term, well-controlled study by Killen et al. (1993), 931 junior high school girls were randomly assigned to an intervention group or a no-treatment control group. The prevention program consisted of 18 lessons with 3 goals: understand the harmful consequences of dieting, learn to balance nutrition and exercise, and learn coping skills to combat the societal pressures to be thin. Lessons centered around the stories of 7 girls, plus writing assignments in a workbook. Participants were assessed 4 times over a 2-year follow-up. The intervention resulted in improved knowledge related to eating disorders, but there were no improvements on scores of actual disordered eating.

Some argue that you can only effect change by altering girls' social environments. A study in Jerusalem conducted by Neumark-Sztainer, Butler, and Palti (1995; as cited in Binford & Fulkerson, 2000) sought to do that. The sample consisted of 341 10^{th}-grade girls (mean age = 15.3) in three all-girl high schools. All classes in one school were assigned to receive intervention; all classes in another were assigned to the control group; and all classes in the third

school were randomly assigned to intervention or control. Girls in the intervention group received 10 hour-long classes on eating disorders, nutrition, body image, and avoiding social pressures to be thin. In addition, the investigators altered the school environments by involving teachers and providing them with training in eating disorder prevention—teachers facilitated informal conversations among students regarding eating and weight concerns. Girls were encouraged to take an active role in creating healthier norms in the school, not just to avoid pressures and harmful messages. Results were seen 6 months and 2 years later: girls in the intervention group had improved nutritional knowledge and more regular patterns of meals, and the intervention also prevented the onset of binge eating and excessive dieting. Thus, across these several studies, it appears that simply teaching adolescent girls how and why to avoid developing eating disorders raises their awareness but does not alter their behavior. In order to alter behavior, school-based prevention programs must seek to alter girls' social environments in addition to teaching them lessons.

ADHD

Although not tested on adolescents, a multimodal treatment has been tested for children with ADHD, and results may suggest its effectiveness with adolescents (The MTA Cooperative Group, 1999). This study of 579 children, with a mean age of 8.5 years, was led by 18 nationally recognized experts on ADHD. The treatments were medication only (carefully monitored with monthly follow-up, with input from teacher), psychosocial/behavioral treatment only, a combination of both, or routine community care. Each treatment lasted for a total of 14 months. It was found that either medication alone or the combination treatment was more effective than either the psychosocial/behavioral treatment alone or the community care. The combined treatment also enabled children to take lower doses of the medication. It should be noted, as is usual, that the results were based on averages. Therefore, there were children in the psychosocial/ behavioral group that showed clinically significant improvements and children in the medication group that did not. The youth will be followed into adolescence. The subsequent data will yield results about the long-term effects of these treatment types.

Drug use and abuse

A number of programs have been implemented specifically to prevent or reduce cigarette smoking, alcohol use, and drug use, and some have been evaluated within experimental designs.[23] For instance, in the *Life Skills Training* program, Botvin, Baker, Dusenbury, Botvin, and Diaz (1995) instituted a cognitive-behavioral intervention in which students were taught skills for building self-esteem, resisting advertising pressure, managing anxiety, communicating effectively, developing interpersonal relationships and asserting rights, with the goal of preventing alcohol, cigarette, and drug use initiation in 7th grade. Designers hoped to achieve lasting effects throughout high school. The sample consisted of Caucasian American students in middle class communities. The two treatment groups were given the prevention in the seventh grade with booster sessions in high school. The cognitive-behavioral education provided by teachers in school was given to both groups. The first group had a one-day training for teachers while the second group was given a two-hour training video. The evaluation conducted in the 12th grade demonstrated that a school-based teacher implemented intervention of a cognitive-behavioral treatment (called "Life Skills Training") in junior high school can reduce the

[23] Although reduced cigarette use is a desired outcome in many drug prevention programs, the antecedents of and programs for cigarette use are covered in detail in the report on adolescent physical health and safety.

prevalence of drug, alcohol, and cigarette use throughout high school. This study provides evidence that such preventions can have long-lasting effects on the use of drugs and even the heavy consumption of a single drug or polydrug use.

In a three-year follow-up study of the same prevention strategy, a predominantly Caucasian American (91%, 2 % African American, 2% Hispanic, and 1% American Indian) sample of 4,466 students was followed-up in 10th grade (Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990). The treatment was found to be effective in reducing the prevalence rates for cigarette smoking, marijuana use, and excessive alcohol use. Similar results were found in an evaluation of Life Skills Training with 721 predominantly ethnic minority 7th graders from urban schools in New York City (Botvin, Epstein, Baker, Diaz, & Williams, 1997), thus demonstrating the generalizability of this prevention program.

Another community-based prevention program, *The Midwestern Prevention Project*, was designed to decrease drug use among high-risk adolescents (Chou, Montgomery, Pentz, Rohrbach Anderson, Johnson, Flay & MacKinnon, 1998). The data for this study came from students at schools in Kansas City and Indianapolis. Sixth and seventh graders (n = 3,412) were split into control (n = 1,508) and experimental (n = 1,904) groups. However, only those who reported smoking cigarettes (control = 188, experimental = 212), using alcohol (control = 290, experimental = 323) or using marijuana (control = 38, experimental = 22) were included in the analysis. The experimental group was given a 10-session program that emphasized social skills and drug use resistance skills in 6th or 7th grade. The parents of the experimental group children were taught positive parent-child interaction strategies; community leaders were instructed on how to institute a community-based prevention strategy; and a mass media campaign was launched. For the control group, only community leaders were instructed on how to institute a community-based prevention plan and a mass media campaign was launched. The analysis demonstrated that the prevention strategy reduced cigarette smoking and alcohol use at the 2.5 year follow-up, but by the 3.5 year follow-up there were no significant effects on reducing the prevalence of use, compared to the control group. This result could point to the fact that many adolescents go through a developmental trajectory in which they exhibit some deviant behaviors in early to mid-adolescence, but the deviant behaviors naturally dissipate by the end of adolescence or that alcohol becomes normative by late adolescence. A separate analysis of these data was conducted by Johnson, Pentz, Weber, Dwyer, Baer, MacKinnon, Hansen, and Flay (1990). The results suggest that the prevention strategy reduced the prevalence rates of marijuana and cigarette use in 9th and 10th grade (i.e., at the three year follow-up). However, across both the experimental and control groups prevalence rates increased over the three year period, but not as drastically among the experimental group participants. Having a more intensive strategy for alcohol use might result in significant long-term effects. The results suggest that this community-based program has medium term effects.

Another strategy on the community level is to provide intergenerational mentoring to children and youth. Loscuito, Rajala, Townsend and Taylor (1996) evaluated the *Across Ages* program, a Temple University sponsored mentoring prevention strategy that targeted 180 African American, Asian American, Latino, and Caucasian American sixth graders in highly distressed neighborhoods in Philadelphia. Older adults (55 and older), who went through a rigorous selection process, were matched with students with the goal of increasing knowledge and reducing the prevalence of substance abuse. Aside from mentoring provided by older adults, students also provided services for frail elders and were given school-based life skills training (*Positive Youth Development Curriculum*; Weissberg, Caplan, & Bennetto, 1988). Mentors also

interacted with parents, thus acting as models, during weekend workshops with the students. The results over a three-year period support the effectiveness of the multi-component program. Students who received the full intervention had significantly (or marginally significantly) better outcomes than either the control group or a group that received all services but the mentoring. Full-intervention students reported better attitudes toward school, their future, and their elders, and fewer instances of substance use. The most robust findings occurred with children who had mentors who made a time and an emotional commitment to the adolescents. The intervention did not include a separate experimental group of "mentoring only."

A school-based program, *Project Towards No Drugs*, is based on the theory that high school students are less likely to use and/or abuse drugs if they know about the myths of drugs, have the skills to lower their risk of taking drugs (e.g., coping and self-control), understand the consequences of taking drugs and know about cessation strategies. This 12-session program is implemented by a trained teacher over a three-week period. In an experimental study of 21 alternative high schools (1,074 students from diverse ethnic backgrounds), in which youth were at an increased risk for drug use, schools were randomly assigned to a 12-session program implemented by a trained teacher, a 12-session program implemented in a self-taught format, or a standard care control (Sussman, Dent, Stacy & Craig, 1998). At the one-year follow-up, the researchers found that the program groups used alcohol and hard drugs significantly less than the control group. There were no differences between the two program groups. A recent evaluation found that the program can be successfully implemented at all high schools (Dent, Sussman & Stacy, 2001). Classrooms within three schools with a total population of 1,208, were randomly assigned to the program group or to a standard care control group. At the one-year follow-up, the researchers found that the program group used alcohol and illicit drugs significantly less than the control group. However, no effects were found for two other targets of the program, marijuana and cigarette use.

Mentoring can also occur with younger mentors. In a study of *Big Brothers/Big Sisters*, Tierney, Grossman, and Resch (1995) examined the effects on adolescent alcohol use of mentors who had an average age of 30 for men and 28 for women; however, over 25% of the mentors were between 16 and 24 years of age. The mentors, overall, were highly educated, with nearly 60% having finished college. Almost seventy-five percent of the mentors were Caucasian American, which resulted in 60% of the minority youth being matched with a non-minority mentor. The average length of time for the mentoring relationships ranged from 10.7 months for minority boys to 12.3 months for Caucasian American girls. A total of 378 12-year-old youth, predominantly from high poverty areas (80%), were matched with big brothers or big sisters during the study period. Of these, 70% met three or four times a month with the average meeting lasting four hours. Compared with the comparison group that was not matched to a mentor, the matched group reported a significantly lower prevalence of drinking during the mentoring relationship (upwards of 70% less likely) and a significantly lower likelihood of initiating drinking (27.4% less likely). Mentored youth were 32% less likely to have hit someone during the previous 12 months. There was no long-term follow-up of these youth. The authors note that not only is a high quality mentor-mentee relationship important, but it is also important to have a strong program infrastructure that is able to recruit mentors who will keep their commitment to the youth.

The Boys and Girls Clubs of America is a group of community-based organizations that provide child and adolescent members with individual services, small group programs, and drop-in activities. The programs include cultural enrichment, health and physical education, social

recreation, personal and educational development, citizenship and leadership development, and environmental education. The centers are also a good place to implement drug prevention programs such as the *Self-Management and Resistance Training* program (SMART). In an evaluation of Boys and Girls Clubs located in low-income housing developments and SMART, Schinke, Orlandi, and Cole (1992) examined five neighborhoods sites. The sites either had an existing club, a new club, or no club; all new clubs included SMART, while only some existing clubs had SMART. Since this was not an experimental design, the pre-test/post-test non-randomized comparison group design allows for results that are suggestive, not conclusive. New club sites had significantly lower prevalence rates of drug activity, juvenile crime, and higher parental involvement than sites that had no clubs. New club sites reached the lower prevalence rates of the existing clubs within a two-year period. These findings suggest that the existence of Boys and Girls Clubs can have a positive association with desired outcomes for high-risk neighborhoods, such as the drug use and delinquent behaviors of adolescents.

The University of Minnesota School of Public Health developed *Project Northland*, a community-based alcohol use prevention program focused on 6th, 7th, and 8th grade students (Perry et al., 1996). Seeking to delay initiation of drinking and reduce the amount of drinking among youth, the program included three years of an in-school curriculum (which includes teacher training), parent participation in alcohol education activities, and student participation in non-school, peer-leader-planned, alcohol-free activities. Using a randomized experimental design, the evaluation, which occurred between 1991 and 1994, included 2,400 students from 24 school districts. Ninety-four percent of the sample was Caucasian American with American Indian students comprising the remaining 5.5% of the study population. After three years, compared to control groups, the intervention group drank monthly 20% less often and drank weekly 30% less often. Intervention students were also 27% less likely to drink or smoke cigarettes. For those in the intervention group who never drank before the implementation of the study, the rates of marijuana and cigarette smoking were 50% and 27% lower, respectively.

The *ALERT* program, developed by the RAND Corporation, focuses on middle school children's substance use (alcohol, tobacco, marijuana, and inhalants). The program includes student participation in 14 adult teacher-led lessons over a two-year period. Teachers are given a one-day training workshop to prepare for the lessons. Parent involvement is promoted through home learning, and a peer-leader component is also included. The goal of the program is to establish no-drug norms and provide students with the skills with which to resist peer pressures to use drugs. For the evaluation, 30 schools were randomly assigned either to a control group, a treatment group with an adult teacher, or a treatment group with both an adult teacher and a peer-leader. Outcomes were measured 15 months after the baseline. The effectiveness of the program was supported by this rigorously designed study. The treatment students, compared to the controls, had marijuana rates that were 30% lower. Current marijuana use was 60% lower in adult-led programs. Among treatment students, cigarette smoking was also reduced by 33 to 55% compared to baseline measures. Anti-drug beliefs were also pervasive into the 10th grade. The program was effective in high and low ethnic minority schools, high and low SES communities, and with high-risk and low-risk students.

Focusing on the school environment, the *Adolescent Alcohol Prevention Trial* was evaluated (Donaldson, Graham, & Hansen, 1994). A total of 3,027 students were split into four groups: information about the consequences of use; information about consequences plus social pressure resistance training; information about consequences plus social education; and information about consequences, social pressure resistance training, and social education. The

students were in seventh grade when they received one of these four curricula and were followed up after one and two years. The results supported establishing conservative drug use norms in the classroom to reduce cigarette and marijuana use at the one-year follow-up. Also, a significant effect for reducing alcohol and cigarette use was found at the two-year follow-up, thus demonstrating a medium term delay of substance use initiation among adolescents.

Harrell, Cavanagh, and Sridharan (1999) conducted an evaluation of a school-based drug and delinquency prevention program, *Children at Risk*. The program is targeted toward 11- to 13-year-old sixth and seventh graders living in neighborhoods with high crime, high drug use, and high poverty. Five sites were chosen for program evaluation (Bridgeport, CT, Memphis, TN, Savannah, GA, Seattle, WA, and Austin, TX). The participants in all of the sites were predominantly ethnic minorities, usually comprised of Hispanic American and African American youth. There were 338 participants in the treatment group (which received case management, family services, after-school and summer activities, mentoring, education services, incentives for good behavior, community policing and enhanced enforcement, and criminal and juvenile justice intervention), 333 in the control group and 203 in a quasi-experimental comparison group. The results of the evaluation support the effectiveness of the program. The treatment group participated in more services and prosocial activities than the control and comparison groups, had more protective factors such as positive peer models and support than the control and comparison groups, and were significantly less likely to use drugs, including gateway drugs, to sell drugs, or to commit violent crimes than the control and comparison groups.

Taking a positive approach toward prevention, the *Creating Lasting Connections* program was designed in order to promote strong, healthy, and supportive youth and families (Johnson, Strader, Berbaum, Bryant, Bucholtz, Collins & Noe, 1996). As suggested by the literature review presented above, with such factors in the youth's life, the youth's resistance to substance use and abuse should theoretically increase. As components of the program protocol, children are taught appropriate skills for personal growth and interpersonal communication, and strong family bonds are stressed. Although the program is designed to be delivered through community-level organizations such as places of worship, recreation centers, and schools, the institution must already have social outreach programs and links with other human service providers. Using a randomized block design with repeated measures, families were assigned to either treatment or control groups in five church communities. The intervention has been shown to be most effective for 11 to 15 year olds living in high-risk environments. From increased engagement in church activities and greater levels of communication skills, family bonding and use of community services, the treatment group had a significant decrease in the age of onset and frequency of alcohol and drug use.

Multiple internalizing and externalizing problems

Some programs target several outcomes instead of only one or two. For example, a school-based program, *Reconnecting Youth*, was designed to target high-risk students in 9th through 12th grades who may demonstrate multiple problems such as depression, aggression, and substance use (Eggert, Thompson, Herting, & Nicholas, 1995; Eggert, Thompson, Herting, Nicholas, Dickers, 1994). Through promoting school bonds and the involvement of parents, including healthy activities, and teaching a crisis response plan, the goals of the intervention are to increase school performance, decrease drug involvement, and improve mood management. At five and 10 month follow-ups, as compared to a randomly selected control group, the treatment group had a lower rate of school drop-out; and, more pertinent to the present report, the treatment

group had a 7% decrease in alcohol and drug use (compared to a 14% increase among controls), a 54% decrease in hard drug use (compared to a 45% increase among controls), and a 24% decrease in drug use control problems (compared to an 18% increase among controls). Although the program did not affect suicidal behaviors (both groups had an 80% decline), the treatment group had a 48% decrease in anger control problems and aggressive tendencies as compared to a 30% decrease for controls as well as the treatment group having a significant decrease in depressive symptoms. Through additional analyses, the researchers suggest that teacher support, peer group support, monitoring school attendance, and skills training in self-esteem enhancement were all important components of the treatment plan.

Data support intervening on the neighborhood level, as well, to prevent multiple problems. The *Moving to Opportunities* program (MTO), sponsored by the U.S. Department of Housing and Urban Development (HUD) involves giving vouchers to experimental group families living in low-income neighborhoods that can be used only in higher income areas. This project used a randomized experimental design by issuing the vouchers through a lottery. The experimental group also received counseling and assistance in finding a private rental unit. A comparison group received section 8 vouchers that could be used anywhere and a control group continued to receive current project-based assistance. It should be noted, though, that all of the participants in MTO volunteered. Therefore, caution should be taken when generalizing the results. One early paper on the impacts of this program suggested significant, positive effects of moving to a higher income neighborhood, such as improved child and parent mental health (e.g., depression and anxiety) as well as lower rates of youth delinquency and problem behaviors (Del Conte & Kling, 2001). The authors point to Jencks and Mayer's (1990) theory that there is a contagion effect in which participation in certain activities increases with the proportion of peers who engage in that behavior. Therefore, a negative social climate should result in more problem behaviors, while a more positive social climate (e.g., lower crime) should result in fewer problem behaviors. Also, having an increase in human capital may provide children and adolescents with more positive support (Borjas, 1995). In Boston, the experimental group boys (8-14 years old) were found to have 27% fewer behavior problems (e.g., disobedience at home, bullying others, inability to sit still, depression) than the control group. The authors referred to the fact that girls reduced their social contact in the new neighborhoods by 30% as a reason for no significant decline in female problem behaviors. In New York, the experimental group boys (8-18 years old) were happier, less depressed, and had fewer instances of arguing than the control group.

Given the evidence presented earlier that early-onset disorders have more negative outcomes, it might be important to intervene in younger children's lives instead of waiting until adolescence. Hawkins, Catalano, Kosterman, Abbott, and Hill (1999) used a non-randomized controlled study to evaluate the *Seattle Social Development Project*, a package of interventions that included in-service training for teachers, developmentally appropriate parenting classes (e.g., child behavior management skills), and developmentally adjusted social competence training (problem solving and peer pressure resistance) for children. Children were given training in grades 1-6, while parents were trained when the children were in first through third and fifth through sixth grades. Teachers received five days of training each intervention year. Even though only 46% of the parents in the full-intervention group completed the parent training, intervention group students reported fewer instances of violent delinquent acts, heavy drinking, sexual intercourse, having multiple sexual partners, being pregnant or causing pregnancy than the control group at a follow-up at 18 years of age. Unfortunately, the evaluation did not

determine which particular components of the intervention were most important or if all of the components were equally necessary.

Summary

In summary, there are numerous programs that have been implemented successfully and that appear either to prevent or treat internalizing and externalizing disorders. For depression, anxiety, eating disorders and ADHD, a combination of medication and psychotherapy may be more effective than the use of a single intervention method. Externalizing disorders, such as drug abuse and conduct disorder, are best prevented through multi-component strategies that intervene on the proximal and distal levels.

Overall, the evaluations tend to support multi-component interventions and preventions as the most effective strategy, even when medication is a component. This makes sense since programs that intervene at the individual, proximal, and even distal levels focus on more antecedents than a single method intervention. However, most of the evaluations do not parse out the effects of each individual component of programs. Therefore, it is possible that only one or two components are necessary for success. In fact, it has been suggested that the most effective form of intervention (not prevention) takes place on the proximal level (Blount, Bunke & Zaff, 2000). More research is needed before definitive conclusions can be made about the specific content of the programs.

Positive Mental Health

Estimates of positive mental health among adolescents are virtually non-existent. Available data suggest that most, perhaps four in five, youth do not have a mental or addictive disorder, but we do not know how many are optimistic, happy, and exploring their identities. Although it is important to prevent depression, anxiety and other mental disorders, being free of problems does not mean that youth are prepared for life (Pittman & Cahill, 1994). Given the dearth of knowledge about this component of adolescent mental health, more information is obviously needed. Nevertheless, there is some research on positive components of adolescent mental health that can suggest promotion strategies for optimism, self-concept, and identity. In this section we will discuss the theory and research on these topics. The discussion of optimism will fall solely in the Theoretical Background section, as little research has been done on the antecedents of adolescent optimism. The focus will be on defining optimism, summarizing the theory related to it, and highlighting several studies that have been done on adolescents, showing the positive outcomes associated with optimism.

The discussion of self-concept and identity will include not only definitions and theory, but also research findings. Although self-esteem and self-efficacy are discussed in the chapter on emotional well-being, it is important to note that self-esteem, self-efficacy and identity are thought to be interrelated. Self-concept, self-esteem, and identity can be considered, respectively, the cognitive, affective, and self-evaluative aspects of the self. Analyses support the association of the positive development of the self with other positive outcomes such as academic achievement and positive interpersonal relationships. However, because there is a dearth of strong research, the primary focus of this section will be on theory with a brief discussion of antecedents.

Theoretical Background

Optimism

In adult populations, optimism has been linked with desirable outcomes such as positive mood, perseverance, academic success, popularity, good health, and freedom from trauma (Peterson & Seligman, 2000). The construct of optimism is related to but can be distinguished from the constructs of hope and future-mindedness. They each represent a stance toward the future, but optimism is expectational and linked to beliefs; hope is emotional and linked to positive emotions; and future-mindedness implies a theory about how to obtain goals and is reflected in behavior. Thus, optimism is the expectation that good things will happen (Peterson & Seligman, 2000).

According to Scheir and Carver (1992), there is a personality variable called "dispositional optimism," which is a global expectation that good things will happen and bad things will not. Optimism has to do with self-regulation, and when impediments arise to achieving goals, optimists keep trying while pessimists give up. Their theory of optimism is related to Seligman's theory of explanatory style (how a person explains bad events to himself or herself). Optimists explain bad events as having external, unstable, specific causes, while pessimists explain them as having internal, stable, global causes. Thus, if something bad happens to an optimist, she will tend not to blame herself and she will see the situation as alterable. If something bad happens to a pessimist, he will tend to blame himself and believe there is nothing he can do to change the situation. According to Seligman, explanatory style solidifies at age 8 and stays stable unless external events cause it to change (Peterson & Seligman, 2000). Seligman proposes that three influences in children's lives contribute to the development of optimism or pessimism: (1) the way parents talk about causal analyses of events; (2) the criticism children hear when they fail—the more pervasive and continuous, the more likely the child will develop into a pessimist; (3) the occurrence of early losses and traumas (Puskar et al., 1999).

Scheir and Carver (1992) posit that the mechanism through which optimism operates is coping with stress. Optimists engage in problem-focused coping (trying to remove the source of the stress), and are more planful when confronting difficult or stressful events. They also accept the reality of situations they are not able to change, and try to grow from negative experiences. Pessimists, on the other hand, tend to give up under adversity. They also engage in denial in hopeless situations, instead of accepting them and trying to learn from them. In a cross-sectional study of 100 undergraduates who reported how they would respond in certain stressful situations, Scheier, Weintraub, and Carver (1986) found that high scores on a measure of optimism were positively correlated with problem-focused coping (i.e., taking an active approach to resolving an adverse situation). Therefore, optimists are better copers, and thus have more positive resolutions to problems, than pessimists.

Quite a few studies of optimism have been conducted among various groups of adults, including college undergraduates, and they demonstrate that optimism predicts positive outcomes (Scheir & Carver, 1992). For example, Aspinwall and Taylor (1990, as cited in Scheir & Carver, 1992) assessed college freshmen's optimism, self-esteem, locus of control, and desire for control soon after they arrived at college. Then, three months later, their psychological and physical well-being were assessed. The authors found that higher scores on tests of optimism were associated with lower levels of psychological distress three months later, independent of other personality factors and baseline assessments of mood.

Most of the research on optimism has been conducted with adult and undergraduate samples, and research involving adolescents is limited. We will summarize two correlational studies that attempt to extend the research to younger ages. Carvajal et al. (1998) studied a sample of 1,985 middle school students (ages 11 to 14) in Texas to investigate how optimism, hope, and self-esteem relate to substance abuse (of alcohol, cigarettes, and marijuana). They found that measures of optimism, hope, and self-esteem were negatively associated with past substance use. They also found that the constructs have protective effects against adolescents' desire to use substances in the future. The results should be viewed with caution due to the correlational design of the study, but it can be suggested that among young adolescents, substance abuse is negatively associated with optimism.

In another study, Puskar et al. (1999) administered questionnaires to 624 rural, predominantly Caucasian adolescents (ages 14 to 20) to assess optimism, depressive symptomatology, coping, anger, and life events. The authors found that lower levels of depressive symptomatology were associated with higher optimism scores; optimists used more problem-focused coping strategies than pessimists; and optimists reported feeling less anger than pessimists. The conclusions that can be drawn from the study are limited, however, because the direction of the results is not clear. For example, it is possible that depression leads to a pessimistic outlook, instead of optimism being a protective factor against the development of depression. The study is useful for supporting a link among adolescents between optimism, pessimism, and coping style in adolescence, results which had been found previously in adult samples.

Self-concept

Self-concept has been defined as the sum of an individual's beliefs about their own attributes, such as their personality traits, cognitive schemas, and their social roles and relationships (Franzoi, 1996). Although much of the research literature on self-concept and self-esteem has grouped these constructs together, they are distinct. Marsh, Craven, and Debus (1999) tentatively concluded, from two large confirmatory factor analyses on children and youth between seven and 13 years of age, that the competency component of the self (self-concept) should be considered a separate entity from the affect component of the self (self-esteem).

The structure of self-concept has been under much debate over whether there is a general self-concept or whether numerous specific self-concepts (e.g., math self-concept, athletic self-concept) are more informative. To help answer this question, Marsh and Yeung (1998a) used a structural equation modeling approach to assess the direction of causality between global self-concept and lower order factors of self-concept. Two studies were conducted for this project. For the first, two waves of data were collected from a sample of 962 12- to 15-year-old adolescents in Australia (57% male). The second study, which also used two waves of data, sampled 288 boys from a Catholic school in Australia. The results showed that higher order measures of self-concept do not predict to lower order measures of self-concept and vice versa. However, higher order measures predict to subsequent high order measures and lower order measures predict to subsequent lower order measures. These findings point to the multidimensionality of self-concept and the specificity that exists within this construct, as well as the fact that a general self-concept may predict general positive outcomes.

Another study by these researchers (Marsh & Yeung, 1998b), using data from the National Education Longitudinal Study of 1988, found similar results; i.e., specific self-concepts predict specific outcomes. Overall, math self-concept predicted math achievement and English

self-concept predicted English achievement. A reciprocal effect was found, however, demonstrating that the resulting achievement predicted subsequent academic specific self-concept.

Some have argued that self-concept is a result of high achievement, not the other way around. In one study, Marsh attempted to discern whether self-concept is a product of achievement or whether achievement is derived from self-concept. Focusing on academic achievement, Marsh (1990) used a panel sample from Youth in Transition study, including 1,456 students who were followed from 10th through 12th grade and then one year beyond high school graduation, in order to determine the direction of causality. Results from their data revealed that grade point averages in 11th and 12th grades were significantly predicted by academic self-concept scores from the previous year. However, a reciprocal effect was not found; that is, grade averages did not predict subsequent levels of self-concept. Therefore, from the multiple studies by Marsh and colleagues, it can be tentatively concluded that a specific self-concept predicts a specific area of achievement, but not vice versa.

Identity

While self-concept refers to an awareness of the self, identity refers to a commitment to that awareness, including beliefs and values, after a period of exploration (Waterman, 1985). Erikson's (1959) original ego identity theory posited that the search for identity in adolescence is one of life's major crises. Although he stated that identity is an ongoing process from the time that a child is born, adolescence marks a time of exploration during which the individual must integrate the various components of the self-concept into one or many identity areas. Like self-concept, Erikson considered identity to be a multidimensional construct including vocational, political, religious/moral, and social role identities. It should be noted that this theory is based primarily on Eurocentric norms, and, therefore, the content of these areas possibly do not cover the important components of all ethnicities/cultures and both genders (e.g., Baldwin, 1981, Gilligan, 1982).

In order to operationalize Erikson's theory, Marcia (1966) created four statuses of identity development that describe periods of search and commitment. The first status, *diffusion*, describes a person who has not begun an identity search, while a person in the second status, *foreclosure*, has committed to an identity without any exploration (e.g., taken on the identity characteristics of their parents without contemplation). These first two statuses are considered to be maladaptive, because adolescents have not explored their environment and made an evaluation with regard to the identity that best fits their reality. The third status, *moratorium*, is the process of "trying on different hats." Although considered a status filled with stress and turbulence, others have argued that moratorium is a healthy process during which adolescents experiment and explore their world. An adolescent would be classified as *identity achieved*, the fourth status, if he or she has committed to an identity after a time of exploration. Building on Marcia's statuses, Waterman (1985) theorized that there is a developmental trajectory for identity. For example, an achieved identity could only be attained through active exploration (the moratorium phase), while a person could go directly from a diffuse status to a foreclosed one.

A second theory of identity development is social identity theory (Tajfel & Turner, 1986), which is based on the premise that an individual has the need to identify with and achieve a positive self-image from a social group. This theory is divided into three main components: categorization, identification, and social comparison. The individual places him or herself into a

social group, feels a part of that group, and then compares him or herself to others in that group, usually in a favorable light. However, identifying with an oppressed ethnic minority or other group that may have a low status in society may lead to a preference for a higher status out-group (Tajfel, 1978). In-group (i.e., one's own social group)/out-group (i.e., those not in own social group) comparisons usually lead to in-group biases (e.g., Hinkle & Brown, 1990), which may explain prejudices (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1996; von Hippel, Sekaquaptewa, & Vargas, 1997; Williams & Giles, 1992).

Identity theories related to specific sub-populations, such as ethnic groups, have generally combined the social identity and ego identity theories (e.g., Atkinson, Morton, & Sue, 1973; Cross, 1991; Phinney, 1989). The theories generally surmise that an individual must go through a period of exploration before an achieved identity state can be reached. However, the exploration is based on identification with a particular categorical group and may involve a comparison with other groups. The comparison is usually based on the premise of being an ethnic minority member (e.g., African American, Asian American, or Hispanic American) in a majority (i.e., Caucasian American) society. In regard to ethnicity, identity has been defined as "one's sense of belonging to an ethnic group and the part of one's thinking, perceptions, feelings, and behaviors that is due to ethnic group membership" (Rotheram-Boras & Phinney, 1989, p.13). There have also been more culturally specific theories that define identity by commitment to particular tenets of a culture (e.g., Africentric customs), but do not deal with exploration, as defined by ego identity theory (e.g., Baldwin, 1981; Nobles, 1973). Adolescents can form an identity with a sub-population other than ethnic groups. The field of anthropology has a vast history of identity study, ranging from identity based on class to identity based on peer-group membership. However, most of the research is based on ethnographic research methods and therefore is not included in this paper.

Overall, identity theories deal with a commitment to a sense of self and a commitment to the values and beliefs of a social group. By first exploring various life-course options and subsequently achieving an identity, an adolescent can achieve a feeling of self-worth and have a relatively focused direction in life.

Developmental Trajectory

Identity

The findings from the majority of studies on the developmental trajectory of identity are based on cross-sectional research that took place outside of the United States. Overall, the data support Marcia's (1966) developmental theory, which operationalizes Erikson's theoretical perspective. In a review by Meeus (1996), only six longitudinal studies examining the developmental trajectory of identity were found between 1966 and 1993. This sample of studies includes those conducted with college students, and young and old adults, not just children. However, the cross-sectional data provide compelling evidence for developmental trends. They suggest that as young adolescents age, they move out of the foreclosed and diffused statuses of identity and into the moratorium and achieved statuses. These changes have been seen when comparing seventh and eighth graders (Streitmatter, 1988). Using a sample of 105 junior high school students, Streitmatter examined longitudinally the psychosocial maturity of early adolescents. After an initial assessment in seventh or eighth grade, the students (51% female and 92% Caucasian American) were re-assessed three years later. The researcher found that diffusion and foreclosed statuses declined over the three-year period, while moratorium scores

increased. Achieved scores remained relatively stable, which is consistent with the theory that adolescence, particularly early adolescence, is a time of exploration, not necessarily commitment. Further corroborating this developmental pattern, Meeus (1996) studied 2,557 Dutch adolescents who participated in a nationally representative study on adolescent development. This cross-sectional project, that covered four age ranges (12 to 14, 15 to 17, 18 to 20, and 21 to 24), found that progressively older youth fall into different groups, from a diffused status to moratorium on to achieving a commitment to an identity. Meeus and Dekovic's work (1995) further confirmed this age-related progression by examining the same data set, but exploring commitment to different types of identity (school, relational, and occupational). The results suggest that identity exploration increases for older adolescents and that commitment to specific aspects of identity, for example occupational, were solidified by 15 years of age.

Phinney, Ferguson, and Tate (1997) focused on ethnic identity in a study of 547 8th and 11th graders (133 African Americans, 219 Latinos, and 195 Asian Americans). They found that older adolescents had an increased level of identity commitment. Limited longitudinal data support this trajectory. Perron, Vondtracek, Skorikov, Tremblay, and Corbiere (1998) assessed the vocational maturity and ethnic identity of 641 high school students (306 males and 335 females; 466 Quebecois and 175 ethnic minority) in Quebec, Canada, three times over a 15-month time period. The results demonstrated that minority students were more vocationally mature and had a more advanced ethnic identity as time progressed. Majority group students' ethnic identity decreased over this same period, possibly because of the low salience of ethnicity in their lives. Another study, of seventh and eighth grades over a three-year period, found that at the follow-up in 10^{th} and 11^{th} grades, students showed an increase in identity search, but no increase in identity achievement; thus supporting the theory that adolescence is a time of identity exploration, not commitment (Erikson, 1966).

There are problems with drawing definitive conclusions from these data. The samples that have been used are diverse. Samples were drawn from different countries and different ethnicities. Although one could argue that using diverse samples would add credibility to the ego identity theory, samples were not representative; and all scales have not been normed on all populations and sub-populations; and the scales that were used for assessment were not necessarily comparable across studies. Further restricting the ability to consider the findings conclusive, there have been other studies which have not shown a linear developmental progression throughout adolescence (e.g., Archer, 1989). Such studies are consistent with theory and research that has argued and demonstrated that identity development may begin later than early adolescence and may not end until adulthood.

Proximal Influences on Positive Mental Health

The factors promoting identity development are also under-researched, but there is enough evidence to suggest what may be important in promoting a positive identity. It should be noted, however, that few findings are based on longitudinal or experimental data; most are cross-sectional studies. Also, the greater part of the literature is based in the ethnic identity area.

Hart, Atkins, and Ford (1999) have investigated the development of moral identity in adolescence. Using the National Longitudinal Survey of Youth (Child Sample), the researchers studied the reasoning behind volunteer service (which the researchers consider to be a contributor to the development of moral identity) of 421 males and 407 females. This nationally representative sample of adolescents born to mothers who were 14 to 21 years old in 1979 had an average age of 16 at the time of the survey. The results suggest that cognitively and socially

stimulating family environments and parent-child activity participation predict greater volunteer service. Based on other results using the same data set, Hart and colleagues (Hart, Atkins, & Ford, 1998) suggest that SES may act as a barrier to moral identity development because it could preclude the participants from a low SES from having the opportunities to be involved in volunteer activities.

Research studying the implications of having opportunities to engage in civic activities has been conducted by Youniss, McLellan, Su, and Yates (1999). The researchers used data from 13,000 seniors sampled for the Monitoring the Future national survey. This nationally representative dataset is an annual survey of high school seniors that was begun in 1976. The data for their study came from the surveys conducted between 1988 and 1993. The study was designed to examine the effects of community service on the identity development of the adolescents. The researchers found that opportunities to participate in community service and in part-time work significantly predicted more conventional identities (e.g., religious attendance, importance of religion, conventional political ideology, and no marijuana use) and unconventional identities (e.g., unconventional political ideology). From these results, the researchers theorized that serving in a community organization might act not only to reinforce normative societal behaviors, but also to promote more radical thinking and the belief that the youth can make a difference in the world.

The parent-child relationship can also affect the identity development of youth. One longitudinal study found that positive parent-child relationships in families where the parents serve as religious models results in an increase in religiosity over a four-year period (King, Elder, & Whitbeck, 1997). For those adolescents who already were high in religiosity, positive parent-child relationships predicted a continuity of religiosity whereas those who declined in their religiosity had more negative parent-child relationships. Personal characteristics also played a role. Most prominently, having a 'born again' experience predicted an increase or stability of high religiosity.

It should be noted that religiosity and volunteering are not necessarily synonymous with religious and civic identity. For instance, a person could live by the spiritual and cultural tenets of Judaism, Christianity, Islam, or another religion, but not attend religious services. Also, a person that goes through the motions of attending services but does not internalize the values of the religion probably has not achieved a religious identity, at least with that religious group. An adolescent that volunteers in his or her community might be required to by his or her parents or by school rules. The internalization of moral and civic values may not have occurred.

Parental racial socialization has been found to be associated with African American children's ethnic awareness and ethnic identity development over the lifespan (Stevenson, 1995). Other researchers have found similar linkages between parents' socialization of their children and child identity development. For example, there is a relation between a more assertive/integrative socialization parenting style or an authoritative parenting style and children who feel a stronger attachment and pride to their ethnic group (e.g., Demo & Hughes, 1990; Rosenthal & Feldman, 1992). Also, parents who reported that they prepared their children for a world in which race matters had children who were significantly more likely to be characterized as having been attuned to racial experiences and begin to question the social norms expressed by the majority culture (Marshall, 1995), one step in the identity exploration process (Cross, 1991).

Meeus and Dekovic (1995), in their nationally representative Dutch study of 2,918 adolescents, examined the socialization effects of peers and parents. They found that by the adolescent years, youth's identity development was most influenced by peers. However, parents

had a positive influence on their children's identity development, as well.

In summary, parents and peers may have a socializing effect on an adolescent's identity development. Performing religious or civic actions may also lead to identity development. However, the research methodology of these studies is suspect, particularly the correlational design and the outcomes used to indicate identity development. Hence, firm conclusions cannot be reached as yet.

Distal Influences on Positive Mental Health

More macro-level factors have also been shown to be related to ethnic identity development. A few correlational studies have been conducted that illustrate possible associations. Hurtado, Gurin, and Peng (1994), using data from the National Chicano survey, examined how the structural and historical conditions of first generation Mexican immigrants to the United States (Mexicanos) differently affected second, third, and fourth generation Mexican Americans (Chicanos). The researchers found that the experience of being an English-speaking American of Mexican descent (the Chicano sample) resulted in a more differentiated social identity. For instance, the Chicano identity was comprised of ethnicity, class, and politics, whereas the Mexicanos' identity included only class and ethnicity. The process for this differentiation was theorized to be the different social comparison groups that the Chicanos and Mexicanos used. Language spoken by the family may also be associated with the development of a Chicano identity. Using the same sample, Hurtado and Gurin (1987) examined the ethnic identity and bilingual attitudes of Mexican-Americans from across the United States. The researchers found that speaking Spanish was a major way for the participants to retain their Chicano/a identity, instead of assimilating into the majority culture.

Cultural norms can have both positive and negative relationships with identity development. Some have found that in the African American community, students may believe that they cannot achieve success if they have a strong association with their ethnic community. Racelessness, in which the individual rejects the African American community and takes on the norms of the majority culture, may result, as was found in a study of 389 adolescents between 13 and 20 years of age (50% female, 37% male; 12% non-response; 63% African American, 37% Caucasian American; Arroyo & Zigler, 1995). In other words, although African American adolescents may succeed academically by rejecting the African American culture, they might exhibit negative features of mental health (Fordham, 1988). However, others have rejected this conclusion, finding that successful African American students have positive relationships with other African Americans and have a positive sense of self. Cook and Ludwig (1997) used the National Education Longitudinal Study of 1988 (NELS:88) to determine whether African Americans experience greater alienation from school than Caucasian Americans and receive social penalties for succeeding academically, and, if so, whether the penalties are greater than those for Caucasian Americans. They found that there were no differences between African Americans and Caucasian Americans. However, the questions in NELS:88 were not created for the purpose of the study, and therefore the conclusions should be taken with caution. The authors also do not take into account the pressures at home and in the community on many African American students, especially those who are bussed to predominantly Caucasian American school districts.

Aside from socialization affecting one's identity development, the way ethnic groups are labeled can also be important. For instance, the national census used to use discrete racial variables to classify members of various ethnic groups for accounting purposes. By design, the

census lumped new immigrants to the United States with those who had lived here for decades (Gimenez, 1992). The result would be a Mexican family that just immigrated to the United States being matched with members of a Mexican-American family who were all born in the United States. Both of the groups, in turn, were placed within the domain of Hispanic to describe those from all of South and Central America and Mexico; many from these countries have never spoken Spanish, such as Brazilians who speak Portuguese or the various South and Central American Mayan and Zapotek groups that speak other languages. This would be analogous to placing all native speaking English speakers, such as European American and African Americans, into the same group (Forbes, 1992).[24]

Summary

There is a relative dearth of empirical research on the antecedents of positive mental health. Two correlational studies of adolescents support optimism as a predictor of using adaptive coping strategies and being more emotionally calm. However, there is no research to suggest how to promote optimism. Self-concept, both as a general construct and as a collection of specific types, may predict global and specific achievements (e.g., academic self-concept associated with academic achievement). Again, little is known about how to promote self-concept. Although still lacking in quality quantitative research, identity is probably the most studied with regards to what predicts exploration and achievement. Parents and peers both socialize the child, which leads to an exploration of the environment and where the self fits into the environment. Distal factors such as language spoken in the community and the social construction of group membership may help to determine an adolescent's eventual identity commitment. Obviously, though, much more research on positive mental health is needed before recommendations for program implementation can be made. Also, research on adolescents has largely ignored other potentially important positive concepts such as happiness. However, a national network of psychologists is working on a taxonomy of positive psychological attributes. Although the attributes are generally focused on adults, this may at least be an important next step.[25]

Summary/Conclusions

Most adolescents are mentally healthy, but a significant number are not. Depression, anxiety, eating disorders, conduct disorder, and drug use and abuse together affect about one in five adolescents, although nationally representative estimates are not available. In order to understand why these disorders occur, the present paper examined the antecedents of, and prevention and intervention strategies for, mental health and overt behavioral problems. However, the negative side of mental health is only half of the story. Positive mental health, such as optimism, self-concept, and identity are important for adolescent health. Therefore, this paper also looked at research on positive mental health.

- *Based on experimental, quasi-experimental, and multivariate longitudinal studies, individual, familial, peer, neighborhood, and media level variables were found to be implicated as predictors of both internalizing (i.e., depression, anxiety, and eating*

[24] The racial/ethnic classification system was revised for the 2000 Census and now includes multiple sub-categories within the "Asian" and "Hispanic" categories.

[25] For additional information about the taxonomy, see http://www.psych.upenn.edu/seligman/taxonomy.htm

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disorders) and externalizing (conduct disorder and drug use and abuse) problems. More specifically, research supports a genetic component for internalizing disorders and possibly externalizing disorders. Temperament and personality characteristics, two other individual level factors, appear to be related to all of the disorders. Furthermore, social-cognitive processing difficulties are associated with conduct disorder and delinquent behaviors in general. Parental negativity, a lack of parental warmth, and family discord have been shown to be associated with internalizing disorders, while negative parent role models and coercive parenting strategies have been implicated as predictors of externalizing disorders. Little research has been conducted on peer influences affecting adolescent internalizing disorders. However, negative peer role models and associating with deviant peers is related to conduct disorder and taking drugs. Dangerous neighborhoods and neighborhoods with few resources to support adolescent well-being have been shown to directly and indirectly predict higher levels of both internalizing and externalizing disorders. Finally, preliminary evidence suggests that the media may influence an increase in depression and eating disorders. More research is necessary, however, before more definitive conclusions can be made.

- *Multi-component interventions appear to be the most effective for preventing and intervening in internalizing and externalizing disorders.* Pharmacotherapy, psychotherapy, and community-level strategies have been found to be effective for internalizing disorders and ADHD, while familial, school, and community strategies are effective for other externalizing problems. This makes intuitive sense since there are multiple factors at multiple levels within adolescents' environments that have been identified as potential antecedents of internalizing and externalizing problems. Considering the developmental trajectory of most mental disorders, starting prevention programs as early as possible would seem to be valuable. The Child Trends report on school readiness outlines several programs for young children that seek to prevent mental health problems (Halle, Zaff, Calkins & Margie, 2001).

- *Programs that are not implemented correctly will have a lesser chance of succeeding in their missions.* Implementing such programs can obviously be difficult, but necessary. Unfortunately, few evaluations have been conducted on the implementation success of programs.

- *Research into positive mental health is particularly sparse for adolescents.* It can be generally agreed, though, that being optimistic and having a strong sense of self (both self-concept and identity) are important components of a mentally healthy adolescent; i.e., an adolescent who is ready for the trials and tribulations of the world. Preliminarily, parent and peer socialization and social construction of cultural communities may promote an exploration and subsequent achievement of an identity. More research is needed before recommendations can be made regarding how to promote these attributes.

- *More experimental evaluations of treatments and preventions are needed.* There is little evidence about how properly to treat eating disorders and little known about the interaction of different levels of the environment on youth internalizing disorders. Therefore, program developers need more conclusive information in order to create the

most effective programs for all youth.

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Table 1:Definitions of Internalizing and Externalizing Disorders

Disorder	*Definition*
Internalizing Disorders	
Major Depressive Disorder	One or more major depressive episodes (i.e., at least 2 weeks of depressed or irritable mood or loss of interest accompanied by at least four additional symptoms of depression – such as inability to concentrate or sleep). Dysthymia (characterized by at least 1 year of depressed mood for more days than not, accompanied by additional depressive symptoms that do not meet criteria for a major depressive episode) is a milder form of depression.
Agoraphobia	Anxiety about, or avoidance of, places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the even t of have a panic attack or panic-like symptoms
Specific Phobia	Characterized by clinically significant anxiety provoked by exposure to a specific feared object or situation, often leading to avoidance behavior
Social Phobia	Characterized by clinically significant anxiety provoked by exposure to certain types of social or performance situations, often leading to avoidance behavior
Obsessive-Compulsive Disorder	Characterized by obsessions (which cause marked anxiety or distress) and/or by compulsions (which serve to neutralize anxiety)
Posttraumatic Stress Disorder	Characterized by the re-experiencing of an extremely traumatic event accompanied by symptoms of increased arousal and by avoidance of stimuli associated with the trauma (acute stress disorder is similar to PTSD that occurs immediately after the traumatic event)
Generalized Anxiety Disorder	Characterized by at least 6 months of persistent excessive anxiety and worry.
Panic Disorder	Characterized by recurrent unexpected panic attacks about which there is persistent concern (sometimes occurs in conjunction with agoraphobia)
Anorexia Nervosa	Characterized by a refusal to maintain a minimally normal body weight
Bulimia Nervosa	Characterized by repeated episodes of binge eating followed by inappropriate compensatory behaviors such as self-induced vomiting; misuse of laxatives; fasting; or excessive exercising
Externalizing Disorders	
Substance Dependence	Characterized by a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by such factors as tolerance, withdrawal symptoms and persistent desire or unsuccessful efforts to cut down or control substance use.
Substance Abuse	Characterized by a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by such factors as use resulting in failure to meet work, school, or home obligations; use in physically hazardous situations; substance-related legal problems; or use despite continued social or interpersonal problems.
Attention Deficit Hyperactivity Disorder	Characterized by either/both inattention or/and hyperactivity-impulsivity that has persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level. The impairment must occur in more than one setting and be evidence of clinical impairment in social, academic, or occupational functioning.
Conduct Disorder	Characterized by a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated (e.g., aggression to people or animals, destruction of property, serious violations of rules, deceitfulness or theft). Oppositional Defiant Disorder is, in a sense, a milder form of conduct disorder (e.g., violence and destruction are not criteria).

Note. Definitions in this table were adapted from the Diagnostic and Statistics Manual of Mental Disorders (4th ed.), by the American Psychiatric Association, 1993.

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Table 2: Review of the Research Literature and Implications for Targeted Activities to Improve Adolescent Mental Health

AREAS FOR TARGETED INTERVENTION ACTIVITIES	WHAT WORKS	WHAT DOESN'T WORK	MIXED REVIEWS	*"BEST BETS"*
Depression	- At the individual level, cognitive-behavioral therapy - At the individual level, serotonin-specific reuptake inhibitors (SSRI's)	- At the individual level, tricyclics		- At an individual level, alleviating negative self-appraisals and self-criticism, as they are antecedents to depression. - Fostering parent-child relationships that are warm and positive, instead of harsh and punitive. - Creating social support systems for depressed youth.
Anxiety	- At the individual level, cognitive-behavioral therapy - At the individual level, serotonin-specific reuptake inhibitors (SSRI's)			- At the individual level, systematic desensitization (for phobias). - Prevention programs targeted to children/adolescents who were inhibited as toddlers (as that is an early predictor of social anxiety). - Treating negative affectivity to prevent the development of anxiety disorders (and depression). - Fostering family environments that allow the development of children's/adolescents' independence, rather than being characterized by high levels of parental control.
Eating disorders			- School-based interventions that consist solely of classes that teach girls to understand the harmful consequences of dieting, learn to balance nutrition and exercise, and learn to combat societal pressures to be thin. (They have been shown to increase awareness, but do not alter behavior.)	- At an individual level, altering certain personality constructs associated with the development of eating disorders, such as obsessional tendencies, rigidity, and poor adaptability. - Individual treatment through psychotherapy, behavior therapy, or family therapy. - Helping girls with their identity development as they enter adolescence and go through puberty, so that they do not choose physical appearance as a means to construct identity. - Altering family dynamics so that they are not characterized by overprotectiveness, rigidity, and conflict avoidance.

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AREAS FOR TARGETED INTERVENTION ACTIVITIES	WHAT WORKS	WHAT DOESN'T WORK	MIXED REVIEWS	*BEST BETS*
				- School-based prevention programs that consist of both classes and altering the social environment.
ADHD	- Medication or medication plus psychosocial or behavioral therapy.			
Conduct disorder				- Teach youth to interpret, accurately, social cues. - Prevention programs targeted to young children who show early indications of conduct problems. - Prevention of maternal smoking during pregnancy. - Helping parents learn to be involved in their children's lives and to monitor and supervise their activities. - Promote relationships with positive peer influences.
Drug and alcohol abuse	- School-based drug prevention programs (such as "Life Skills Training"), in which students are taught to resist the pressures of advertisements, build self-esteem, manage anxiety, communicate effectively, and develop interpersonal relationships. Resulted in reduced use of drugs, alcohol, and cigarettes. - School-based programs (such as "Project Towards No Drug Use) that teach youth coping and self-control skills, teach youth about the myths of drugs and alcohol, and teach youth about the consequences of drug and alcohol use results in the reduced use of alcohol and illicit drugs. - Community-based family programs (such as "Creating Lasting Connections") that seek to strengthen family bonds and teach children skills for personal growth and communication through community organizations such as places of worship and recreation centers. - Community-based alcohol prevention programs (such as "Project Northland) that include an in-school curriculum, parent education, and participation by youth in		- Programs (e.g., the Midwestern Prevention Project) that teach parent-child intervention strategies coupled with community-level initiatives (works in the short-run, but not in the long run).	- At an individual level, increasing an adolescent's regulatory control. - At the family level, improving parental monitoring, and targeting parental alcohol use. - Providing adolescents with positive peer role models. - "Boys and Girls Clubs of America"—program of cultural enrichment, health and physical education, social recreation, personal and educational development, citizenship, and leadership development.

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AREAS FOR TARGETED INTERVENTION ACTIVITIES	WHAT WORKS	WHAT DOESN'T WORK	MIXED REVIEWS	BEST BETS
	alcohol-free activities outside of school. - Mentoring programs (such as "Big Brothers/Big Sisters" and "Across Ages") that pair an adolescent with a supportive adult mentor. - Programs that create no-drug norms and develop drug resistance strategies for youth. Uses adult-taught curriculum, peer leaders, and parental involvement (e.g., ALERT and the Adolescent Alcohol Prevention Trial).			
Multiple internalizing and externalizing problems	- School-based programs (such as "Reconnecting Youth") that promote school bonds and the involvement of parents, and teach a crisis response plan. Resulted in a decrease in alcohol and drug use, and a decrease in anger control problems and aggressive tendencies. - Families moving from high-poverty neighborhoods to low-poverty neighborhoods (for example, "Moving to Opportunity"). Resulted in improved parent and child mental health, and lower rates of youth delinquency and problem behaviors.			- Family interventions that promote healthy family functioning and good parenting practices. - Early intervention in children's lives to prevent problems over the course of their development (Seattle Social Development Project). One program consisted of parenting classes and social competence training for children (problem solving, peer pressure resistance) in grades 1 through 6. Effects were seen at age 18 (fewer violent delinquent acts, less drinking, lower rates of sexual intercourse, lower rates of pregnancy), but due to the multiple components involved, it is difficult to determine exactly what brought about the effects.

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